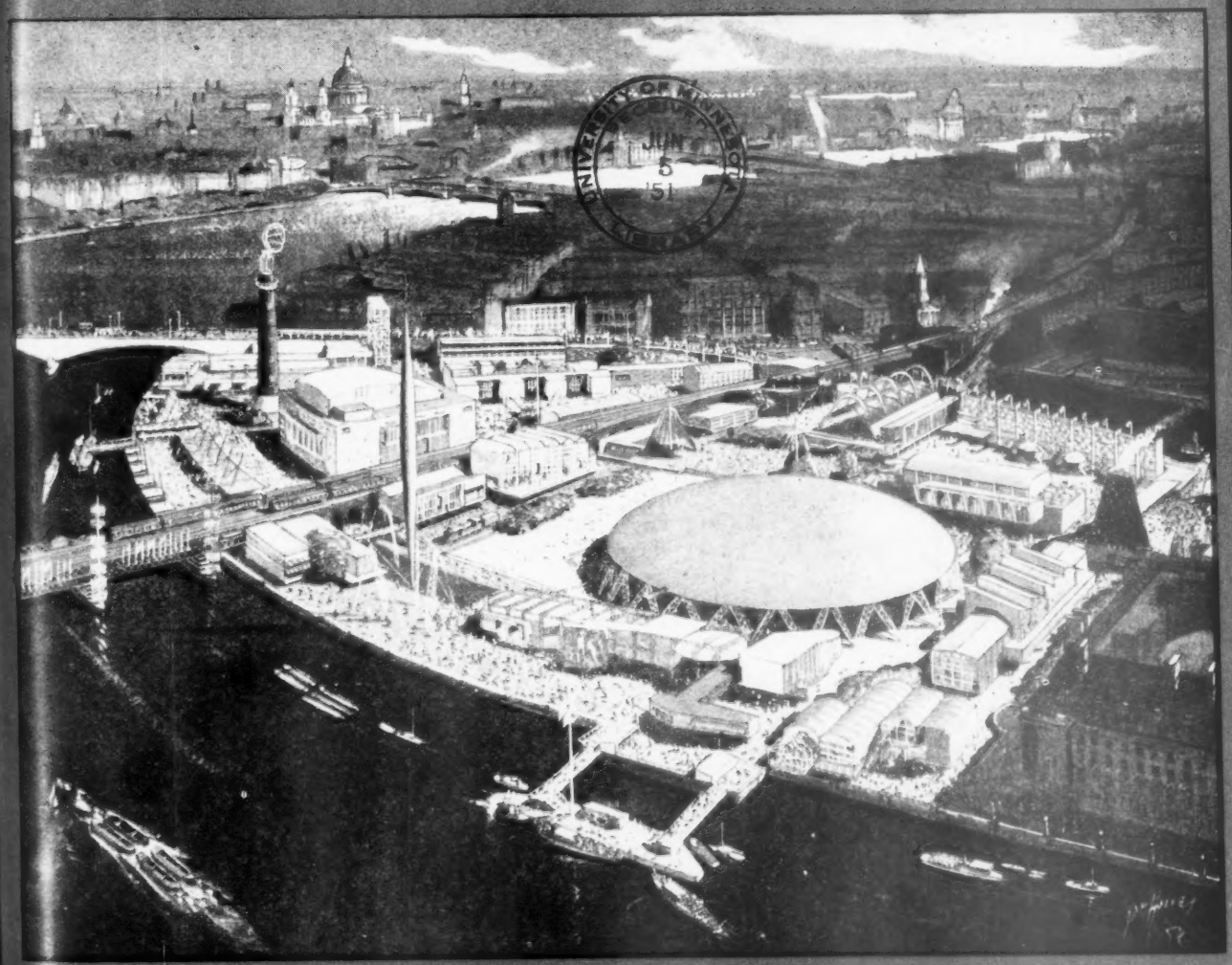
THIRD SERIES VOL 58 NUMBER 7 MAY 1951

THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1 · TWO SHILLINGS AND SIXPENCE



Festival of Britain. The South Bank Exhibition. From a drawing by J. D. M. Harvey

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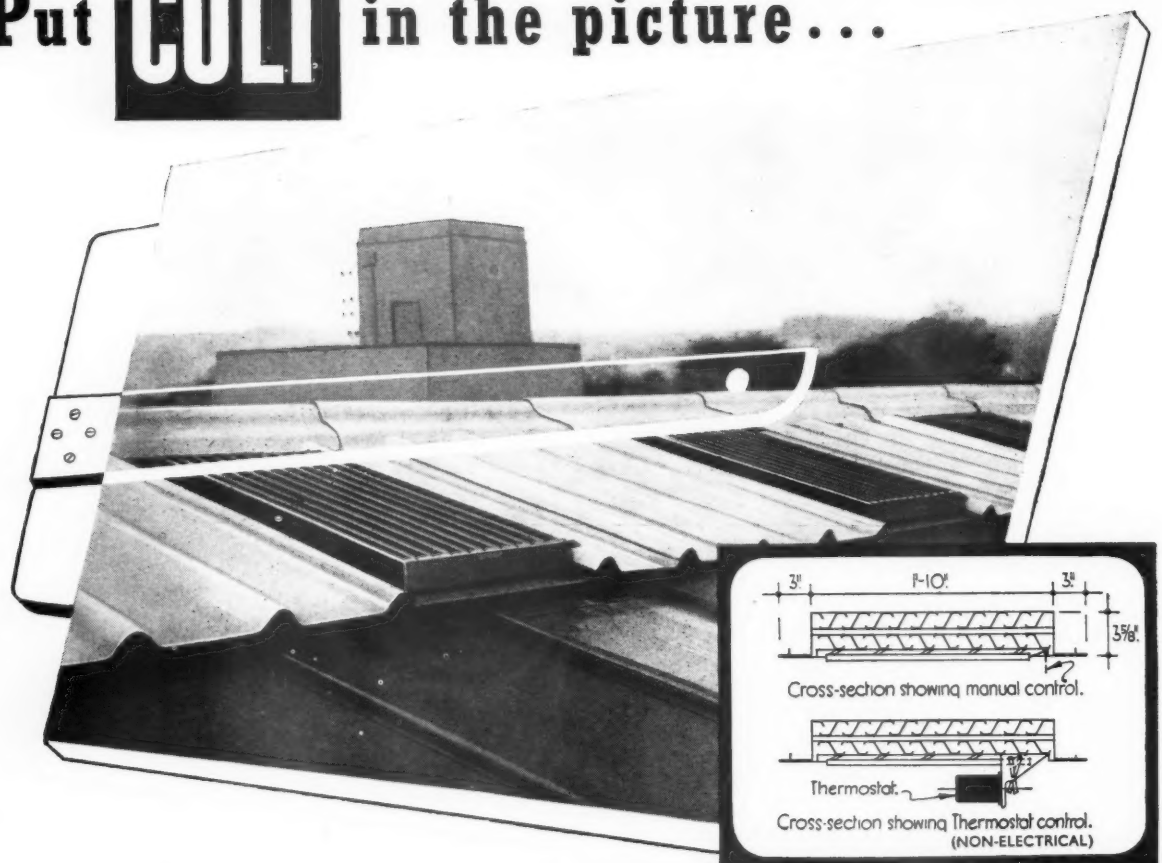

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Reception for Architects and Students from the British Commonwealth and the U.S.A.

The Council had the greatest pleasure in welcoming so many visitors from the British Commonwealth and the U.S.A. at the informal reception given last autumn, and they have decided to hold another informal reception this year on the same lines. The reception will be held at the R.I.B.A. on Tuesday 9 October 1951, and, as last year, proceedings will be entirely informal.

The Institute knows the addresses of a number of visitors from overseas, but there are certainly a great many more whose addresses in England are not known. It would be appreciated if any member who knows the names and addresses of any architects or students from the British Commonwealth or the U.S.A. visiting England will send details to the Secretary, R.I.B.A., so that invitations may be sent to these visitors. It would be of further assistance if any correspondence on this subject were marked on the envelope 'Overseas Reception'.

Housing Medal Awards

The Ministry of Local Government and Planning have announced the awards of Housing Medals for schemes submitted up to the end of 1950. The Minister, the Rt. Hon. Hugh Dalton, M.P., will present the medals and diplomas at the R.I.B.A. on 7 June at 3 p.m. The entries totalled 358.

The awards are:—*Northern area:* J. W. Hanson, Jnr. [*L*]; E. Middleton and T. M. Jones. *East and West Riding area:* C. E. Culpin [*F*]; A. J. Steel [*A*]. *North Midland area:* P. F. Burridge [*F*], City Architect, Lincoln. *Eastern area:* H. K. Ablett [*F*], Chief Architect to the Hemel Hempstead Development Corporation; R. O. Foster [*F*]. *London area:* G. Blair Imrie [*F*]; J. F. Howes and F. L. Jackman [*F*/*F*]. *Southern area:* H. and P. Sawyer [*F*/*A*] in association with Mort and Partners [*L*]; J. F. Watkins [*L*]. *South-Western area:* A. G. Bazeley [*A*]; F. S. Kett [*L*]. *Midland area:* E. B. Norris [*F*]; F. W. B. Yorke [*F*]. *North-Western area:* T. Mellor [*A*]. *South-Eastern area:* J. L. Denman [*F*]; J. W. Wilton, Surveyor to Guildford R.D.C., in association with A. J. Horsfield [*A*]; medal also to A. J. Horsfield [*A*] in association with J. W. Wilton. *Wales:* Johnson Blackett [*F*], Borough Architect, Newport; J. B. Cooper [*F*].

Northern Ireland Architecture Bronze Medal

The Council have approved the award of the R.I.B.A. Architecture Bronze Medal in the area of the Royal Society of Ulster Architects to the Sir William Whitla Hall, the Queen's University, Belfast, for which the architect was Mr. John MacGeagh [*A*], consultant Mr. Edward Maufe, R.A. [*F*]. The award is for the period of 13 years ending 31 December 1950.

Architecture of the Festival of Britain

For the first time for twelve years British architecture is enjoying a little freedom from the shackles of austerity. To those architects who perforce have had to 'work to rule' with constant attention to such things as 'cost per sq. ft. of floor area', a visit to the South Bank is a heartening experience. Here in abundance are imagination, adventure and gaiety—three necessary ingredients of architecture that have long been denied us. Editors of architectural periodicals also are glad to have so much (almost too much) matter to publish that is both photogenic and technically exciting. In forthcoming issues of the JOURNAL we will publish illustrated reviews of the three chief architectural events of the Festival. Mr. Anthony M. Chitty [*F*] will write on the South Bank Exhibition, Mr. John Gloag [*Hon. A*] on the Festival Gardens at Battersea, and Professor Gordon Stephenson [*F*] on the Live Architecture Exhibition at Lansbury. The Royal Festival Hall will also be illustrated.

R.I.B.A. Exhibition: Drawings by Thomas Matthews Rooke

An exhibition will be held at the R.I.B.A. from 29 May to 14 June of architectural drawings by Thomas Matthews Rooke, R.W.S., 1842-1942. The exhibition will be open on Monday to Friday from 10 a.m. to 7 p.m., on Saturday from 10 a.m. to 5 p.m.

In 1878, when Ruskin was seeking to have reliable records made of old buildings in their authentic and unrestored condition, Burne-Jones recommended Rooke to him for the purpose, adding in his letter '. . . also, he has a very high place waiting for him in heaven, *and he doesn't know it*'. Some of the best work Rooke did for Ruskin, in Venice in 1879-80, was destroyed in a burning luggage van on the Saint Gotthard route. But some survives in the Ruskin Museum at Sheffield. The drawings to be now exhibited were made in France, England, Italy, Switzerland and Tunis. The first to be shown was made in the eighteen-sixties and the last in the nineteen-thirties, when Rooke was over 90.

Rooke's first interest was music, but by the age of 23 he had discovered that he had still greater interest in painting. After 10 years of work in the Army Agent's Office, meeting Wellington's old Peninsular Generals, he had saved enough money to become a full-time student at what is now the Royal College of Art, where he was a gold and silver medallist; he then passed on to the Royal Academy schools. In 1874 his was one of the first pictures to be bought by the Chantrey Bequest. At first a figure painter, he soon took to drawing buildings. Some of the drawings to be exhibited at the R.I.B.A. show Chelsea river front before the Embankment was made, and Gloucester Road as a farm lane. Unfortunately most of the work of his middle period was sold as it was produced, and consequently is not available for this exhibition. The special quality of his work is a meticulously affectionate respect for the buildings which he portrayed.

Official Revision of Housing Standards

As we go to press the Minister of Local Government and Planning has announced certain revisions to the requirements and procedure relative to housing. These include permission to make reductions in circulation space, though not in room sizes, and the giving of discretionary powers to local authorities regarding the provision of the second w.c. The relevant Circular is No. 38/51; it will be discussed more fully in the June JOURNAL.

The Great Exhibition of 1851

At the Victoria and Albert Museum there are two exhibitions inspired by the centenary of the 1851 exhibition: one shows mementoes, records, and some of the exhibits that were displayed in Hyde Park; perhaps the most interesting being the actual sheet of blotting paper on which Paxton sketched his idea for the Crystal Palace—a name which was coined by *Punch*, in November 1850.

The criteria by which beauty of design is to be judged may have changed in the last 100 years, but in excellence of workmanship some of the 1851 exhibits can well bear comparison with 1951.

It is gratifying to read that the Crystal Palace exhibition was ready for the official opening on 1 May 1851, and that a profit of £186,437 was made; a fact which must have been gall and wormwood to Colonel Sibthorp, who thought the idea was 'the greatest trash, the greatest fraud, and the greatest imposition ever attempted to be palmed upon the people of this country'.

The other exhibition is *Masterpieces of Victorian Photography*, assembled by Mr. Helmut Gernsheim, F.R.P.S., from his collection. At the 1851 exhibition, photography was classed under philosophical (scientific) instruments, but the photographs on the walls at the Victoria and Albert Museum show that although they may have been taken by 'scientific' means there was abounding artistic inspiration behind them; in beauty of composition, and indeed in technique, they set a standard not often surpassed even now, although we have expensive cameras, roll films, daylight-development tanks, and a variety of printing papers and processes.

Perhaps in the early days of photography each exposure involved such complicated preparation that more careful thought was given to composition and lighting than in these days of press-the-button photography, except by the comparatively few who realize that the simplification of the processes enables them to attempt subjects that would have been difficult of achievement in the days when exposures had to be some 6,000 times as long as suffices now.

Without venturing on the question whether photography is an art or not, we would advise a visit to the exhibition, so that each may judge for himself.

Both exhibitions remain open until 11 October 1951.

The Ministry of Works; Appointments

The Minister of Works, the Rt. Hon. George Brown, M.P., has appointed Mr. A. W. Cunliffe, M.B.E., as his Principal Private Secretary, and Mr. K. P. Leary as Assistant Private Secretary.

Functional Efficiency of the Royal Gold Medal

The following is a quotation from the JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS, of April 1951. It is an item in a feature entitled, 'The Editor's Asides'.

'Like that of many individualists, Frank Lloyd Wright's dress is usually eye-catching. At the recent dinner in his honour, opening the exhibition of his work, Wright was flanked by the predominating black not only of masculine evening dress but by black-gowned women. Hung casually over his shoulders was a large shawl of silky, white angora. A rigidly focused spotlight would have been no more efficient and far less effective.

'Hung about his neck was the Gold Medal of the Royal Institute of British Architects. One fascinated observer ventured to ask Mr. Wright whether this was his favourite of all the medals given him. "Hell, no," he replied, "It's the only one with a ribbon".'

I.U.A. Congress, Currency Arrangements

Particulars of the forthcoming Congress in Morocco of the International Union of Architects were published in the April JOURNAL. The following are details of currency arrangements.

Architects from the United Kingdom proposing to attend the Congress will be able to draw French currency additional to and apart from their basic annual allowance for holiday purposes. The Bank of England have agreed to the provision of currency at the rate of £5 per day for a period of ten days for architects attending the Congress, but this concession will not be extended to their wives or families. The latter will have to draw on their basic annual allowance of £100.

Applications for currency should be dealt with through Messrs. Thos. Cook & Son, Berkeley Street, Piccadilly, W.1, who will arrange for the form T.2 to be countersigned by the Secretary, R.I.B.A. Messrs. Thos. Cook & Son have also been entrusted with the collection of the Conference registration fee of 3.500 francs which must be deducted from the currency allotment. The arrangements described above do not, of course, prevent architects from drawing on their annual holiday currency allowance of £100 which they may spend additionally while in Morocco, if they wish.

Scottish Laboratory of the Building Research Station

An Advisory Committee for the Scottish Laboratory of the Building Research Station has been set up under the Chairmanship of Mr. Lockhart W. Hutson, O.B.E., F.R.I.A.S. [*F*]. The Committee will ensure that the work of the Laboratory serves the special requirements of Scotland and will also help to link it closely to the Scottish building industry.

Members of the Advisory Committee include Mr. J. Austen Bent, A.M.T.P.I. [*A*], Chief Technical Officer and Assistant General Manager of the Scottish Special Housing Association Ltd., and Lt.-Col. Alexander Cullen, O.B.E., T.D., F.R.I.C.S., F.R.S.E., M.T.P.I., F.S.A.Scot. [*F*], County Architect, County Council of Inverness.

Superintending Architect to the War Office

The Institute has been asked to make known to members that applications are being invited for the post of Superintending Architect to the War Office. The salary scale for the post is £1,500 rising to £1,750 per annum and the approximate age limits for applicants are between 42 and 48.

Members interested in this appointment should write giving full particulars of their qualifications and previous experience, both civilian and military. Letters should be addressed to Major General L. D. Grand, C.B., C.I.E., C.B.E., Director of Fortifications and Works, the War Office, Chessington, Surrey.

Building Licensing Notes

Notes for the Guidance of Applicants for Building Licences, issued by the Ministry of Works, was enclosed with the April JOURNAL. Unfortunately copies had to be omitted from 70 JOURNALS because the delivery from the Stationery Office printers was that number short. This was not discovered until the majority of JOURNALS had been dispatched and unfortunately the names of the members to whom the 70 copies were sent was not noted. Copies will be sent on application to the Editor, R.I.B.A. JOURNAL.

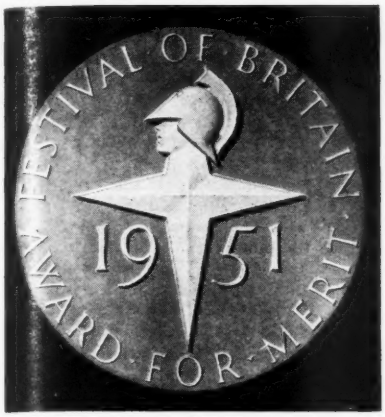
R.I.B.A. Diary

TUESDAY MAY 29 TO THURSDAY JUNE 14. Exhibition of architectural drawings by Thomas Matthews Rooke.

WEDNESDAY 30 MAY TO SATURDAY 2 JUNE. British Architects' Conference, Belfast.

TUESDAY 19 JUNE 6 P.M. General Meeting. Council Election Results. *The Architectural Significance of* 1851. R. Furneaux Jordan, A.A.Dip. [*F*].

Architects' Guide to the Festival of Britain



The plaque to be attached to award-winning entries in the scheme for good design in building and landscaping to mark the Festival Year. Awards are being made by the Festival Council of Architecture. The plaque is by H. Wilson Parker

South Bank Exhibition. Until 30 September, 10.30 a.m. to 11.30 p.m. (Sundays 12.30 to 11 p.m.). Tuesdays: until 4 p.m. by advance ticket only, 10*s.*; after 4 p.m., 4*s.* at turnstiles. All other days: until 3 p.m. by advance ticket, 5*s.*; after 3 p.m., 4*s.* at turnstiles.

The South Bank is the centrepiece of the Festival and tells the story of Britain's contribution to civilization. The site is 27 acres in extent and has been laid out in a series of pavilions and related open spaces by Hugh Casson, M.A. [*F*], Director of Architecture. The pavilions and their architects are: the Dome of Discovery, Ralph Tubbs [*A*]; the People of Britain, H. T. Cadbury-Brown [*A*]; the Land of Britain, H. T. Cadbury-Brown [*A*]; Minerals of the Island, Architects' Co-operative Partnership; the Country, Brian O'Rorke, A.R.A., R.D.I. [*F*]; Power and Production, G. Grenfell Baines [*A*] in collaboration with H. T. Reifenberg; Sea and Ships, Basil Spence, O.B.E. [*F*]; Bailey Bridge and Restaurant, Misha Black, O.B.E., and Alexander Gibson [*A*]; Transport, Messrs. Arcon; the '51 Bar, Leonard Manasseh [*A*]; the Skylon, Powell and Moya [*A/A*]; the Lion and the Unicorn, R. Y. Goodden, R.D.I. [*A*], and R. D. Russell, R.D.I.; Television and Telekinema, Wells-Coates, O.B.E., R.D.I. [*F*]; Homes and Gardens, Introductory Pavilion, Denis Clarke Hall [*F*]; Homes and Gardens, Bronek Katz, Dip. Ing. Arch., and R. Vaughan [*A*]; Administration and Canteen, E. D. Mills [*F*]; Waterloo Bridge Gate, Thames-side Restaurant and Sport, Maxwell Fry and Jane Drew [*F/F*]; Shot Tower, Hugh Casson, M.A. [*F*] and James Gardner, O.B.E., R.D.I.; Seaside, Eric Brown [*L*] and Peter Chamberlin [*A*].

Howard V. Lobb [*F*] is Chairman of the Council of Architecture, Town Planning and Building Research and (since April 1950) Controller of Construction.

Exhibition of Architecture, Lansbury, Poplar. Until 30 September, 10.30 a.m. to 8 p.m. (Sundays 12.30 to 8 p.m.). At turnstiles 1*s.* 6*d.*, no advance booking.

The exhibition consists of part of a neighbourhood unit, now being developed by the London County Council, using their own staff and several private architects, together with a group of temporary buildings forming an exhibition illustrating town planning and building research. Building of the neighbourhood unit is continuing this year and several blocks have show-flats and show-houses open to visitors.The buildings and architects are as follows: Primary and Nursery School, Yorke, Rosenberg and Mardall [*F/A*]; Home for the Aged, Booth and Ledeboer [*F/A*]; Shopping Centre and Market Place, Frederick Gibberd [*F*]; Roman Catholic Secondary School, David Stokes [*F*]; Roman Catholic Church, Adrian Gilbert Scott [*F*]; Congregational Church, C. C. Handisyde and D. Rogers Stark [*A/A*]. The housing blocks are by the Housing Department of the L.C.C. (Sydney Howard [*L*]), G. A. Jellicoe [*F*], Bridgwater and Shepheard [*F/F*] and Norman and Dawbarn [*F/F*].

Anthony M. Chitty [*F*] is co-ordinating architect for the whole exhibition lay-out, including the route for visitors to the buildings of the neighbourhood unit; he has also designed the pavilion for the Exhibition of Planning, the administration block, etc. Other buildings are: Cafeteria, Miss Sadie Speight [*A*] and L. Manasseh [*A*]; Pavilion of Building Research, J. C. Ratcliff [*A*]; Vertical Feature, John Wright [*A*]; technical co-ordinator, J. Godfrey-Gilbert [*A*].

Festival Pleasure Gardens, Battersea Park. Until 3 November, 10.30 a.m. to 11.30 p.m. All weekdays by advance ticket 2*s.* 6*d.*; at turnstiles, 2*s.* Sundays (fun fair closed), 12.30 to 10.30 p.m.; no advance booking; 1*s.* at turnstiles.

Full details have not yet been issued. The site has been landscaped with gardens and flowers and consists of the Main Vista, the Centre Garden, the Riverside, the Main Carriageway and Amusement Park. The Main Vista is lined with pavilions, arcades, towers and pagodas, lakes and fountains. In the riverside area is a cafeteria, tea pavilion, de-luxe restaurant and wine garden and the Riverside Theatre. There is also an open-air theatre, seating 1,250, which is a permanent structure. For children there is a miniature zoo, a Peter Pan railway, a boating pool and Punch and Judy theatre. Other features are an 'Emett Railway', a grotto, a clock tower and a fountain tower. The Amusement Park covers six and a half acres and contains the usual sensational 'rides' and novelties.

Exhibition of Science, South Kensington. (At the Science Museum, Exhibition Road.) Until 30 September. Tuesdays 10 a.m. to 10 p.m., 4*s.*; Saturdays 10 a.m. to 10 p.m., 2*s.*; Sundays 2 to 10 p.m., 2*s.*; other days 12 noon to 10 p.m., 2*s.* No advance booking.

Visual displays illustrate the growth of our understanding of the nature and structure of matter. Chief Designer, Brian Peake [*F*].

1851 Centenary Exhibition. At the Victoria and Albert Museum. Until 11 October, 10 a.m. to 6 p.m. (Sundays 2.30 to 6 p.m.). No advance booking; at the turnstiles 1*s.* adults, 6*d.* children under 12.

Relics, paintings, engravings and souvenirs of the Great Exhibition, together with many original exhibits. There is also a picture story of how the Crystal Palace was constructed and how it appeared.

Exhibition 'A Hundred Years of British Architecture 1851-1951'. At the R.I.B.A. 12 July to 8 September. Admission free. 10 a.m. to 7 p.m. (Saturdays 10 a.m. to 5 p.m., not open on Sundays).

Provided by the R.I.B.A. at the request of the Festival Authorities, this exhibition illustrates the most interesting buildings and developments in architecture during the last hundred years. A copiously illustrated handbook reflecting the exhibition will also be available.

Exhibition of Industrial Power, Kelvin Hall, Glasgow. Until 18 August, 10 a.m. to 10 p.m. on weekdays (no Sunday opening). Admission by advanced booking, 3*s.*, at the turnstiles 2*s.* 6*d.*

The exhibition illustrates outstanding British achievements in heavy engineering and its associated technologies. The development of power from coal and water and, in the future, of nuclear energy is shown together with an account of the techniques that have followed from it. The principal sections are devoted to coal, steel, machine tools, engines, electric power, hydro-electricity, civil engineering, irrigation, railways and shipbuilding. The final section, the Hall of the Future, illustrates the possibilities of atomic energy. Chief Architect and Designer, Basil Spence, O.B.E. [*F*]; designers, A. Braven [*A*], Albert Smith, F.S.I.A., Hulme Chadwick, A.R.C.A., Jack Coia, D.A. [*F*] and Douglas C. Stephen.

Exhibition 'Living Traditions'. Scottish architecture and crafts. The Royal Scottish Museum, Edinburgh. 25 June to 8 Sept. 10 a.m. to 10 p.m. All days. 1*s.*

Ulster Farm and Factory Exhibition. A narrative exhibition on the Castlereagh industrial estate, Belfast, describing agriculture, the linen industry and other industries in Northern Ireland. 1 June to 31 August, 10 a.m. to 10 p.m. (no Sunday opening); 2*s.* at turnstiles. Chief designer, W. M. de Mayo, M.B.E., M.S.I.A.

Some Technical Problems Arising in the Building of a New Town

By G. Grenfell Baines, A.M.T.P.I. [*A*]

Read at a meeting arranged by the R.I.B.A. Architectural Science Board, 10 April 1951

Sir Thomas P. Bennett, C.B.E. [*F*] in the Chair

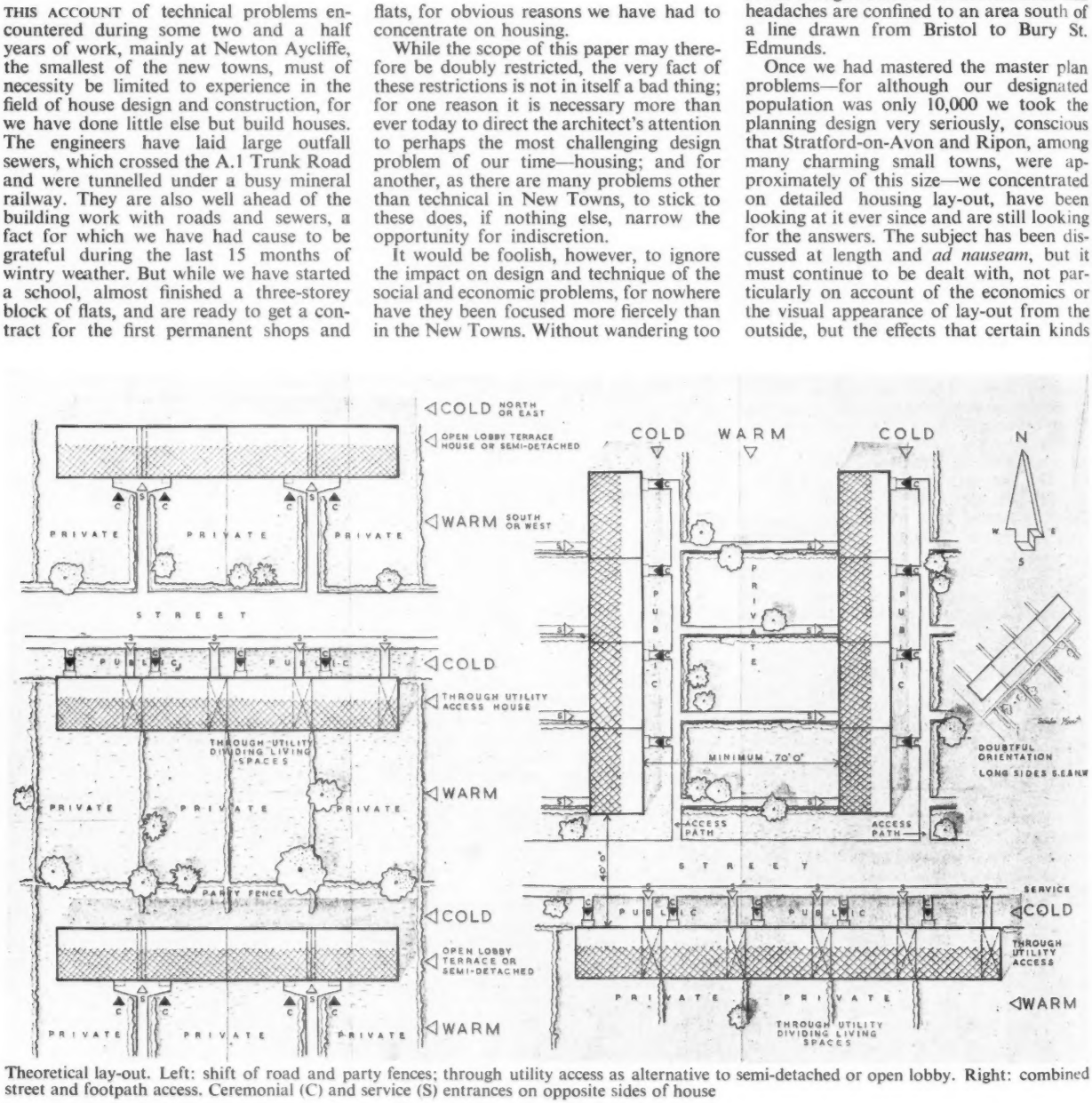
THIS ACCOUNT of technical problems encountered during some two and a half years of work, mainly at Newton Aycliffe, the smallest of the new towns, must of necessity be limited to experience in the field of house design and construction, for we have done little else but build houses. The engineers have laid large outfall sewers, which crossed the A.1 Trunk Road and were tunnelled under a busy mineral railway. They are also well ahead of the building work with roads and sewers, a fact for which we have had cause to be grateful during the last 15 months of wintry weather. But while we have started a school, almost finished a three-storey block of flats, and are ready to get a contract for the first permanent shops and flats, for obvious reasons we have had to concentrate on housing.

While the scope of this paper may therefore be doubly restricted, the very fact of these restrictions is not in itself a bad thing; for one reason it is necessary more than ever today to direct the architect's attention to perhaps the most challenging design problem of our time—housing; and for another, as there are many problems other than technical in New Towns, to stick to these does, if nothing else, narrow the opportunity for indiscretion.

It would be foolish, however, to ignore the impact on design and technique of the social and economic problems, for nowhere have they been focused more fiercely than in the New Towns. Without wandering too far from the subject, and steering a course between being embroiled with the Practice Committee for unprofessional conduct on the one hand and the law of libel on the other, I hope to show that work on the New Towns is not without interest and profit, at least in terms of experience.

It can not be pretended that anything I have to say will be highly scientific, rather may it be called a letting-down of the architectural hair while there is still some left—at the pains and discoveries of which older members may smile indulgently, younger ones wonder at our crass stupidity, and contemporaries find temporary relief in the thought that not all the mistakes and headaches are confined to an area south of a line drawn from Bristol to Bury St. Edmunds.

Once we had mastered the master plan problems—for although our designated population was only 10,000 we took the planning design very seriously, conscious that Stratford-on-Avon and Ripon, among many charming small towns, were approximately of this size—we concentrated on detailed housing lay-out, have been looking at it ever since and are still looking for the answers. The subject has been discussed at length and *ad nauseam*, but it must continue to be dealt with, not particularly on account of the economics or the visual appearance of lay-out from the outside, but the effects that certain kinds



Theoretical lay-out. Left: shift of road and party fences; through utility access as alternative to semi-detached or open lobby. Right: combined street and footpath access. Ceremonial (C) and service (S) entrances on opposite sides of house

of lay-out can have on the detailed internal planning and design of the houses.

One important result of the way in which housing policy has been directed over the last few years, whether in local authority or New Town schemes, is that any good-sized piece of housing has become a comprehensive and complex design problem, where harmony or otherwise may begin in a planned kitchen and, by combinations of rooms, footpaths, roads, gardens and open spaces, end in a more or less desirable environment at a more or less economic rent.

The control of all these things by one authority—a public-spirited land-owner, as it has been called—could and has in many cases put everything into the hands of one designer. In such circumstances bye-laws, theoretically at least, and certainly for technical reasons, may be unnecessary. Whereas in the past authorities with limited and often merely restrictive powers could only lay down lines which would at any rate secure enough space about buildings, whatever their planning, orientation or elevation, it is now possible to think of detail and principles together. New Town corporations, however, have no more than land-owners' privileges in this respect; they must conform to the directions of the local authorities of their area. I can say that, in general, we have done extremely well with our authorities, though not without some expenditure of time in negotiations.

The ideals in our first essays on housing lay-out were (1) to plan for maximum sunlight in all living-spaces; (2) to preserve adequate light and air to all the internal spaces of the homes, bearing in mind the nature and duration of their use; (3) to provide at least one private garden space of 120 sq. yd. average area, and to maintain the most intimate arrangement possible between living and private garden spaces; and (4) while observing these, to restore a sense of urbanity to the lay-outs. Easy to say, but necessary first to discover what we meant by urbanity.

We have been studying it seriously, as yet without complete success, but have recorded at least two qualities, both of which may be missing from normal suburban and garden city lay-outs: (1) variety between developed and open spaces in the lay-out; (2) propinquity, not only of building and building, but also of buildings and pavings.

We decided that lay-outs where closely built-up areas alternated with fairly large-scale open spaces would relieve the monotony characteristic of many otherwise pleasant garden city type lay-outs, while by linking certain parts of our buildings more intimately with the streets we might recapture urbanity, architectural unity, or what you will. In our opinion the loss of urban qualities had been due to the suburban front garden as much as to the transition from terrace to semi-detached.

With all these points in mind we decided that in general the overall shape of our house plans would be wide-fronted with narrow depth, and wherever possible we would avoid placing houses with their long axes running south-west to north-east, giving only south-east and north-west exposures. After finding that the combined forces of family types, access, orientation, æsthetic effect and so on operating in an experimental climate produced different house types like rabbits, we made certain broad classifications of which the two principal ones were warm access, i.e., south or west, and cold access, i.e., north and east. We also coined two alternative designations for front and back, namely private side and public side, and without any extensive experience of postal speculation it is not difficult to see that these offer a number of permutations all having a bearing on design.

From the viewpoint of internal arrangement the ideal combination is public side and cold access. Here privacy of living-space and garden, propinquity of architecture and paving, and unity of forecourt treatment are all possible. At the other end there are problems enough where warm access and private side coincide.

Perhaps the most important feature arising out of these studies is the shift of access road and party fences. Roads are much nearer the cold sides of houses and further away from the warm sides; party fences, instead of being mid-way between backs or private sides, are again moved nearer to the cold walls. We have preserved generally the 70 ft. distance between facing long walls, but sought where possible to reduce this where gable faced long wall or gable faced gable. We have not yet succeeded in bringing gables to face each other from the back of their respective footpaths and thus only perhaps 25 ft. apart; we hope to do this some time, though naturally we will not plan for any windows in these gables on the ground floor, and will avoid facing them where they occur at first-floor level.

Other architects in the town have produced good solutions to turning some corners with special two-sided houses having access on the north-east or north-west and two warm exposures on the private side.

But while space about buildings, the relations between buildings and street and the effects on density of alternating close with open development have all contributed arrangements which have given a certain visual character to our lay-out, the most burning problem of all yet remains unsolved, namely, external access in relation to internal planning, the service and ceremonial entrances and their positions either together on the public side or separated, with ceremonial on the public and service on the private side, or any other variation. For whatever combination the lay-out may impose, there is no doubting the resultant effect on the internal plan.

Recent and more intensive researches into smaller house planning only serve to high-light the difficulties. If private gardens are to be kept absolutely private (our original and I think widely-shared ideal), then the public side must be made to provide both service and ceremonial entrances. Prior to the war the common solutions were either semi-detached houses or terraces with lobbies. In 1944 we evolved an arrangement for terraced houses which we christened the 'through utility'; it is neither original nor exclusive but, generally speaking, it has proved acceptable after the first inevitable reactions to an unusual arrangement. The principle is familiar; a space at the side of each house, about 6 ft. wide, containing service porch with dustbin and fuel access, downstairs lavatory, laundry, drying cabinet and store, all combined. Theoretically, the idea possessed advantages; each house had exclusive use of the way through, it could be sealed off and used for intensive storage, whereas no one would dream of hanging coats or storing tools on the walls of a through-lobby. Where plans followed the same hand the space isolated the living-rooms of adjacent houses. Objections were both practical and psychological; the former including the difficulties of wheeling a manure-laden barrow through the space; the latter, doubts as to which was the front and which the back of the house.

The chief difficulty, particularly for smaller houses, rests in the amount of space given over to through access, and the crippling effect on the plan of two doors on one side. These have produced a swing in favour of the footpath access type of lay-out, never out of mind actually, but it seems as if multiplication of smaller houses will make more of this lay-out inevitable. It has both practical and æsthetic disadvantages; length of path for service deliveries is obvious, but this can be limited and special trolley equipment provided. Development at right angles to the street will need to be carefully balanced with frontage-type development if monotony is to be avoided. Generally, frontage development would occur on the south or west side of the main street so as to give maximum effect to street and buildings relationships and minimum space on the 'cold' sides of houses; in these circumstances the gables of the footpath access terraces might be as near to the long frontages as 40 ft., producing an effect both economical and interesting.

Much more may be said regarding the economics of lay-out and various types of access service construction. It is well known that local bye-laws for road construction might be relaxed to modify specifications where planning design ensures only light traffic. Footpaths may be eliminated in favour of one paved strip for vehicles and pedestrians, while footpaths across greens may be considered as part of the general access scheme and thus be omitted from road lay-outs. Although it is largely an engineering matter the duplication of soil and surface water drainage systems, while desirable in sewage disposal design, can put up the cost per house by as much as £40, especially where, as at Aycliffe, pumping is involved. Road and sewer costs per house range from £150 to £180, and these are on densities of 8.4 to 10.5 houses per acre,

including the large public greens. Our earlier lay-outs were generous, 8.4 overall and 10.8 houses per acre, excluding the greens. Later lay-outs are 10.5 overall and 12.5 on actual development.

Whether with the drive for smaller houses there will be a corresponding move toward compacter lay-outs is not known, but out of interest we have studied an intensely developed area of Preston (the subject of the infamous and ubiquitous aerial photograph) and show how a present density of 40 per acre can be reduced to 25 per acre, giving the same effect of alternating developed and open areas. The answer probably lies somewhere between. It is interesting to note that the approximate difference in cost would be £70 per house, or about 1s. per week rent.

The same northern climate which made lay-outs for sunlight a major principle inspired various ideas for providing a better heating service within the house. Originally, Newton Aycliffe was to have been a district-heated town and many have been the disappointments at the ultimate abandonment of the idea. It foundered finally, like many ideas, on the economic rocks, though the course of consideration was always affected by social undercurrents. Many honestly believed that some unspecified but none the less real social ailments would follow the withdrawal of the open fire. Just before it was decided that the principle was unsuitable for application to our types of lay-out, the difference between district heating and ordinary heat service costs was seen to be about 2s. 6d. per week. I am indebted to the Chief Finance Officer of the Corporation for an analysis of costs which is interesting. The variable and fixed running costs of the scheme outside the houses came to 8*s*. 4*d*. per week. To this 1*s*. 6*d*. per week was to be added for costs inside the houses, i.e., ducts, pipes, radiators, additional insulation, etc., against which deductions for fireplaces and chimneys were allowed.

Of the 8*s*. 4*d*. per week, coal, water, and electricity accounted for 39·5 per cent; wages, management and maintenance, 22·7 per cent; depreciation and loan charges, 37·8 per cent, of which plant and buildings amounted to 13·7 per cent, mains 8·8 per cent, and ducts, etc., 15·3 per cent.

One of the practical arguments against the scheme was the low density of the lay-out. This bore on the costs of mains and ducts, which took some 24 per cent of the 8*s*. 4*d*. per week. Our original densities were 8·4 over the main areas developed, including the public greens. We have managed to increase these to 10·5—a 25 per cent improvement. More might have been done, but only at the expense of the general amenities of the lay-out. Even were the densities to be increased 50 per cent it will be seen that the ducts and main costs might have been reduced by no more than 9*d*. per week, or only a third of the real gap.

To the technicians working on the scheme it seemed that the decision not to go ahead could hardly have been given on technical grounds, though it is clear that improvements in main and duct design, which might lead to insulated mains that could be buried with the same ease and flexibility as electric cables, would be of inestimable advantage. The elaborations of construction necessary to maintain complete accessibility at all times accounted for over one-third of the costs within the house. It would appear that a great deal of this work is hardly necessary and that more reliable fittings and techniques would justify taking more risks. Originally ducts 2 ft. 6 in. wide and 2 ft. deep, along one outer wall, were proposed, naturally raising problems of connections to other services. Later, the use of roof spaces was considered, though reluctantly by the engineers, and as unwarrantably long terraces were implied for economy in vertical runs the idea was discarded by the architects. Originally, the boiler house was planned on the perimeter in the north-east of the town. Various estimates of the increased cost involved were given and a last-minute investigation of a central position was made, but again the resultant saving was only on a relatively small portion of the total costs and the problems of accommodating stock yards, ash disposal and other facilities in the Town Centre, while not insoluble, involved the central area planning to a degree which made us wonder if the town was not going to be sacrificed to the heating. The purists will argue that it now has been sacrificed to an archaic method of heating, involving distributed soot, fuel and ash disposal, plus other appreciated but indefinable disadvantages, the financial values of which were never assessed or taken into account when the scheme was in the balance.

It was the social factors which really drifted the scheme on to the rocks. The removal of the open fire, with its traditional appearance, its infra-red rays and its focalizing influence, the removal of the freedom of the tenant to have or not to have the service—for no household heat was to be metered and the charge was a standing weekly charge; these, plus the uncertain economic situation (for all the time the scheme was under consideration prices were rising generally out of proportion to wage increases), more than the technical problems proved unanswerable. Nevertheless, the test did prove that contemporary economics and social forces can challenge and outface the technician, and, just as in house design, of which it is said there is nothing new and yet in which it is evident there is still wide scope for design, the engineers who believe in district heat have further still to go if their designs are to prove acceptable in the full context of their setting.

Faced with the abandonment of the principal means of heating the houses, it is to the credit of the Corporation that they have gone on trying to achieve the end of better house-warming by other methods. The general scheme is thoroughly to heat the main living-room, to provide ample quantities of domestic hot water, and to air the remaining spaces of the house. Some of the steps towards this are already common knowledge, but one or two experiences may be of interest. We have adopted most of the Egerton standards of insulation, involving foamed slag inner linings to external walls, closed cavities, glass wool quilt over ceilings, and insulating finish to ground floor slabs, but, apart from one building—the centrally-heated Schindler-Goehner flats—we have not put double glazing to the living-rooms; with double sashes this would add something like £5, while other though more desirable methods are still more expensive.

The schemes have been based on four criteria: (1) heating, warming and hot water, as described, to be from one fuel-burning source. The addition of cooking might complete the ideal. (2) Heating unit as efficient as possible, combining production of radiant, domestic, hot water and convection heating. (3) Distribution system giving maximum use of heat with adequate ventilation, and (4) initial capital costs and fuel costs as low as possible. Costs obviously vary with designs and standards of comfort.

Simple schemes for standard three-bedroom houses providing generator, 60 sq. ft. of heating surface in three radiators, pipes, calorifier and convected air to one or two outlets plus insulation costs, and crediting normal heating and plumbing costs, work out finally at £87 to £97 per house, or a maximum of 1*s*. 6*d*. per week on the rent. Against this, tenants can expect almost twice the heat value out of the fuel consumed, and almost a winter's experience at Newton Aycliffe shows that comfortable conditions and adequate supplies of hot water can be given for a weekly consumption of 2-2¼ cwts. of coal and coke. Taken over a thirty week season, with much less consumption in between, this shows a reduction on the annual district heating costs, though it can not be claimed that the standard will be as high as district heat, while all the disadvantages of stoking, lighting, and atmosphere pollution have to be endured. Against this, the tenant can control the situation once he or she understands the generator and the operation of the system.

Our house plans have had to be revised to meet the entirely new condition of fires being placed in the middle of the plan. The results of this are far reaching, even to altering door swings and the conception of fires and doors being as widely separated as possible. We have revised the traditional approach to installation design, which usually aims at balancing output of generator with heating surface provided, giving more total surface so that the heat may be switched according to requirements. Though fairly successful in one scheme this has led to a great deal of trouble in another, where tenants did not get operating instructions and expected to centrally-heat their houses from one small fire on a minimum consumption of fuel.

This experience leads us to believe that

there is a limit to the amount of trouble tenants will take to get the best out of a more complex arrangement; like driving a car, the use of high-efficiency appliances and flexible systems requires careful instruction and initial help and supervision. We have no reason to think that once they have gained both the experience of better house warming and the operation of systems, tenants will ever want to go back to older and lower standards. Another lesson we learned is that large quantities of hot water are as important as space heating or warming; an indispensable item of the system therefore should be a gate valve on the main return together with a duplicate return direct from the calorifier to boiler, so that when desired the whole of the boiler output can be switched to the cylinder; the most convenient location for the valve being on the ground floor.

In principle we have aimed at centralizing the generator and the heat outlets to create a warm zone in the middle of the plan. When possible we release convected air into the hall and landing rather than the bedrooms, preferring to air these either by exposed pipes or hot water radiators. Generally we prefer to concentrate heat output on the ground floor. Finally, it must be obvious that the initial costs of better thermal insulation standards will soon pay for themselves, and it might be advisable in consideration of future housing subsidies specially to reserve a subsidy for this purpose.

The design implications of better heating standards do not of course stop at insulation, or general lay-out for that matter. More intensive use of space and time available may be the most fundamental factor of house design we have yet encountered, but it requires great courage on the part of an authority to practise to the full the outcome of these implications. It was my intention to treat this subject separately, but time does not allow and in any case some may have seen the recent article and corresponding repercussions in the ARCHITECTS' JOURNAL. Further thought has suggested that while it is important to divide up the housing fabric provided by the present output of the industry into as many separate homes as possible, it is desirable not to reduce the dimensions of the main living-space or to interfere with its main function by using it permanently as a bedroom as well. So far I have retreated, but no further. I still believe that it should be possible to house a four- or five-person family comfortably in no more than two-thirds of the space we are now providing, and by good heating and suitable equipment to make this reduced space twice as effective as the normally planned, warmed and equipped house. There does seem to be a good case for building two-storey flats, where each four flats require only one stair and a large living-space may give access to laboratory kitchen, minimum bedrooms and bathroom planned on ship standards; one bedroom of reasonable size being kept for general use of parents or as a sick bay.

Setting up the ground floor panels for Schindler-Goehner flats

Lay-out, heating and general design have now been discussed, but the technical problems have by no means been confined to these. Newton Aycliffe is being built in the wilds, where it is hard to bring labour and material to the site against the more attractive conditions prevailing in nearby towns. In addition, and probably in common with other sites, we have experienced difficulty in getting bricks and bricklayers and to some extent plasterers. Apart from this, a natural interest in developing building techniques has led to trials of construction and materials which would reduce site hours and the amount of wet construction.

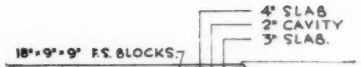
We have no outstanding successes to report and some of the original lines have been dropped, but some gains and present trends may be of interest.

Altogether we have been concerned with ten main house-building contracts, four of the non-traditional and six traditional construction. Three contracts are finished, three sufficiently advanced to forecast man-hours fairly accurately, and four are under way. In the early days we accepted 41 aluminium bungalows for urgent needs of key workers—Aycliffe has all its industry by virtue of the adjoining Trading Estate. The bungalows were rather ideally laid out and rafts were built up to some height over low ground. Later we took 102 non-traditional permanent houses of two well-known types. These were followed by 18 Schindler-Goehner flats, of which more later, and two small contracts for a total of 92 traditional houses. Other contracts cover about 120 traditional houses in the early stages of construction, while the Chief Architect's Department has about 140 more or less traditional houses under way, some 16 nearing completion.

We have attempted to assess the man-hours on site for the six contracts in completed or advanced stages—to these must be added factory, yard or shop hours—not easy to get but possible to assess in some cases by percentage of cost between factory work and final cost. Absolutely accurate figures can not be guaranteed but here are reasonably correct site man-hours for various contracts: for the 41 aluminium bungalows, 1,180 site hours per unit; for 50 non-traditional houses, type A, 2,384 per unit; for 52 non-traditional houses, type B, 2,445 per unit; for 18 Schindler-Goehner flats, 2,351 per unit; for 47 traditional houses in one contract, 2,588 per unit; and for 45 traditional houses in another contract, 2,366 per unit.

Non-traditional houses are standard three-bedroom types about 1,050 sq. ft. total floor area. Traditional houses are two-, three-, four- and five-bedroom types averaging out about the same bulk as each of the non-traditional. The Schindler-Goehner flats are two- or three-bedroom with a generous lower ground floor under the whole block, so that, generally speaking, they may be said to contain rather more than the bulk of 18 three-bedroom houses. Factory work for the Schindler-Goehner system cost one-sixth of the total contract, most of it for material and machinery, so that very little should be added to the site hours. Nothing is known of the yard and shop costs for the other factory-made units of the other types, but both systems are still very much dependent on site work, as the hours show. All the figures given may be compared with the Girdwood Report figure of 2,575 man-hours for the standard house, with the obvious exception of the aluminium bungalows, where, although lower than any other type, hours are higher than usual due to lay-out and levels.

The obvious lesson is that drastic reductions of site hours can only be achieved by the most intensive prefabrication such as the aluminium bungalow which, in spite of



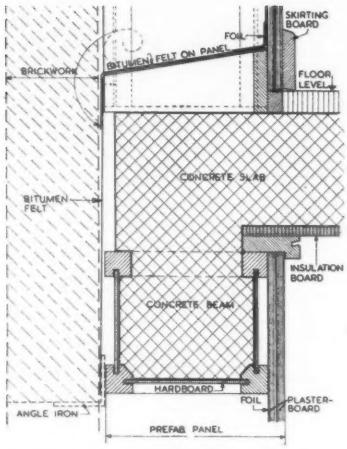
Independent outer and inner slabs at jambs, stopping mid-feather foamed slag blocks

its compactness, is one of the most expensive houses on the site. We have good reasons to think that the Schindler-Goehner system of construction is at least 10 per cent cheaper than traditional construction in the same type of building, viz., three-storey flats, and we are of the opinion that this has been a worthwhile experiment in spite of initial doubts and a contract enjoying more than ordinary vicissitudes. Perhaps the Corporation's decision to try another block of 18 flats, and the same contractor's willingness to carry on, are sufficient recommendations.

Members who have been able to read recent articles will be familiar with the Schindler-Goehner system. Devised by Gottfried Schindler, an architect in Zurich, its main principle is to fabricate the interior to the highest degree, even plumbing, glazing, electrical services and final painting being carried out in the factory in Switzerland. We have not gone so far, realizing first the difficulty of contractors and men in completely assimilating a new idea, secondly the great difference in this country at least between the factory and site overheads, and finally we doubted whether spending lavishly on glazing and finishes, in a climate where there are delays in erection and sealing off together with an existing tendency to handle materials roughly, would pay. With these exceptions we are of the opinion that the system has been reasonably successful, and with more experience should prove to be a positive advance in building technique.

The construction principle is reinforced concrete frame, with posts at all window and door jambs on external walls and in a spine midway between. Beams over posts in both transverse and longitudinal directions, with a stiffening diaphragm of 5½ in. reinforced concrete floor, complete the system. The staircases are separate elements with load-bearing walls. We departed from the elaborate precast concrete Swiss model of open stair in favour of a much simpler and cheaper form of outer and midfeather walls with steps simply spanning between. The completely non-structural outer cladding can be of any form, from facing brick, which we used, to rendered blocks or even a waterproof cement skin on patent lathing. All the formwork for columns and beams was permanently constructed in the panels; this not only simplified site operation but the resulting vertical boxes and horizontal troughs greatly stiffened the panels during transport and erection. All timber was treated against rot by one of the recognized methods.

From a form of panel construction which used solid boards for boxes and troughs



The Schindler-Goehner system; outer wall beam

and hardboard for inner linings, we gradually evolved a much less expensive arrangement, in terms of timber, by reducing boxes and troughs to slender wood angle-pieces rebated for narrow widths of hardboard, while linings were made of two skins of plaster-board, the outer aluminium foil clad and screwed to the frames, the inner glued to the outer with a proprietary material made of anhydrite and glue, among other ingredients. This principle of gluing plaster-board has been extended into other fields of dry construction which will be described later. All these revisions were helped along by Mr. Fitzmaurice and Ministry of Works' architects who were also trying the scheme.

Once erection techniques were learned it was possible to receive, erect and line all the panels for a pair of flats in less than two days. Subsequent operations took longer than in Switzerland, where contracts for 54 flats were completed in as little as three months, though they were staffed much higher than the Aycliffe project.

A number of conclusions arise from this experience. (1) Prefabrication of carcasing, rather than shell, is by far the more promising approach. (2) Shuttering problems and general unfamiliarity with reinforced concrete techniques suggest a pure frame construction with floor panels infilled either with precast concrete units for flats, or timber for two-storey houses. (3) The optimum of factory and site overheads varies considerably with climate and tradition. For example, the Swiss saw fit to glaze and paint under factory roofs and overheads : we realized that once a scaffold at site went up for outer cladding it was possible to glaze and finish-paint from it at site overheads but under climatic conditions. Interior decoration is certainly cheaper with site overheads and is not so much at the mercy of climate. (4) A point of detail on the panels which affects appearance and weathering is the inclusion of the windows. This means at least a 4½ in. reveal in outer cladding with subsequent exposure. Windows might be omitted to be built in with the cladding with certain practical and, some may feel, æsthetic advantages.

With the exception of pouring the floor slab and frame the Schindler-Goehner system may be called dry construction, but other developments, mainly in house construction, have led to promising lines still being explored. Our efforts to overcome difficulties in the bricklaying and plastering trades have turned our attention to block construction and what may be termed prefabricated plaster work; or, in other words, plaster-board finishings.

The Chief Architect, Mr. G. A. Goldstraw, is using foamed slag blocks and I am indebted to him for details of treating the blocks at openings to avoid any risk of damp penetration. In principle, the mid-feather type block for main walling is stopped short of the actual jamb to make way for independent outer and inner lining slabs joined by iron cavity ties and bonded back to the main wall blocks. This method allows a reveal, if desired, the frames being used to stop the cavity. Damp-proof courses at heads are brought over the frames rather than the tops of lintels. This prevents any moisture from the back of the outer membrane bleeding out above the head and causing a stain, a defect we have noticed where ordinary concrete lintels have been used in brickwork where the ultimate finish is rendering. We have tried to overcome this ourselves by forming boot lintels with a relatively thin toe outside, the damp-proofing being bedded on top of the toe, but can not say we are too pleased with the resulting appearance, which is rather formal for domestic work.

The most important developments in block manufacture and erection appear to have been made by one of the builders on the site, who has kindly sent samples along. Generally, he has concentrated on producing an absolutely true block with interlocking type joints so arranged that when combined in a wall they form a practically true face with no joints to complicate the surface. Machine-made concrete blocks are an old material, but these are something relatively new, the mix being hydraulically pressed and extruded through steel dies. A very dry mix is used so that little shrinkage occurs, yet crushing tests show adequate strength for most normal requirements, either as load-bearing blocks in domestic work or linings and partitions for schools and flats. Crushing tests show a breeze block, 8 : 1, at 950 lb. per sq. in.; a foamed slag block, 5 : 3 : 1, at 600 lb. per sq. in.; and a gravel and sand block, 4 : 2 : 1, at 650 lb. per sq. in. These may be considered against safe loads on ordinary brickwork of 80 lb. per sq. in. and the factor of safety will be seen to be very high.

Originally, a pair of houses was erected with two skins of 9 in. x 6 in. x 4½ in. proprietary blocks, but further developments are producing 18 in. x 9 in. blocks which can be laid dead true with less than craft skill, the mortar being spread in the internal grooved joint made by an ingenious mortar box made of steel, the bottom being perforated to allow mortar

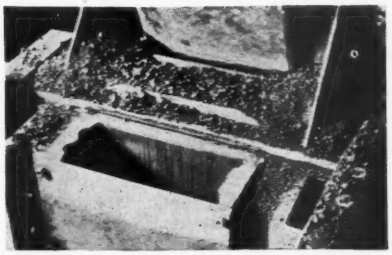
to escape and profiled to scoop away all but the exact amount required. The projecting tongue of the next block ensures even spread.

The block walls are then lined with plaster-board stuck to the flush surface. The method of mixing the adhesive does not present undue difficulties, except that very hot water should be used in proportion of one part to 34 parts of the powder, which should be added to the water and not *vice versa*. At first the whole surface of the blocks was plastered with adhesive, but later spot-dabbing was found to be sufficient. At all times the only initial fixing aids required were two small nails top and bottom of an 8 ft. x 4 ft. board. Later it was found that they could be removed after eight to ten hours. Top and bottom edge fixings were later ensured by skirting and cover mould, which could be profiled to serve as a picture rail if desired. Joint filling and covering varied between a knife fill with the adhesive to linen-backed paper tapes, which showed little, particularly if a slight textured decoration was used.

The initial cost of this construction, including blocks and lining, is slightly more than traditional construction. Estimates vary from 2*d*. per sq. yd. by the manufacturers to 1*s*. in our estimation, but the great advantages of a dry house and an infinitely more reliable first decoration alone encourages us to continue with the technique. Shortage of plaster-board can not be overlooked, but the extreme accuracy of the blocks encourages the hope that a plaster skim finish will suffice for inside and a spatterdash coat of coloured rendering outside—old and as yet unrealized hopes perhaps, but sample walls have been erected and are under observation. While not entirely dry, the construction would be a great advance on traditional methods.

Another small improvement in the electrical systems, which has simplified and cheapened not only the wiring but also the incidental building work, is to arrange for all light switching to take place at the ceilings. Lengths of metal conduit, wires, grooves in walls and linings, and subsequent making good, are replaced by a cord, with, incidentally, less staining of walls as well as savings in labour and materials.

So much may be noted at this point and from our experience certain conclusions emerge: (1) that traditional methods have stood up to an even stronger attack than that which followed the first world war: (2) that this is due to two main factors, (*a*) the inherent soundness of traditional methods, and (*b*) a disinclination on the part of the industry and the client to go on trying new methods unless the first results show an obvious advance: (3) that there is a future for (i) prefabrication of interiors up to an optimum where factory overheads become top-heavy; (ii) accurately made blocks with internal joints to give accurate setting; (iii) drier construction either by prefabricated plaster or wall slabs requiring only thin finishes: (4) light frames of steel or precast prestressed concrete which would



Hydraulic block-moulding machine, showing extrusion die

form sub-scaffolds and jigs for building up plumbing units on the site as well as enabling roofs to be completed at an early stage; inner lining and partitions constructed on Schindler-Goehner lines: and (5) that more than creative architecture and engineering are necessary if the New Towns or any other large-scale housing developments are to continue to meet a public need. We need creative economic and public relation policies as well.

Finally, architects have to make an even greater combined effort over a wider field of design operations if the recent improvement in our housing is to be maintained in a manner which will widen the scope of its benefits to the many who at present have little hope of relief or the necessary means to enjoy it, should it by some good chance become available in reasonable time.

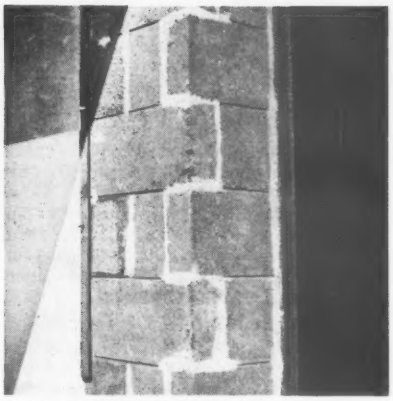
That our joint and renewed efforts would be appreciated by our public patrons and backed by the industry is a hope that may or may not be justified in direct proportion to our endeavours. On the whole we have reason to be sanguine.

DISCUSSION

Mr. A. G. Sheppard Fidler [*F*]: On the question of lay-out, I feel that there is a danger in studying densities and lay-outs from the theoretical point of view. We find that every site is different. If we are to use the characteristics of the site in any way, we immediately get away from the gridiron type of plan, such as exists at Preston, and arrive at something which we hope will enable us to preserve trees and other attractive features. Rows of blocks, for example, are excellent if there are about five or six of them, but beyond that they become too regimented.

We have found at Crawley that it is almost impossible to get an economic lay-out and bring large open spaces into the middle; we have to be content with breaking up a high density with incidental spaces of reasonable size. We have found, for example, that we have to put playing-fields, and playgrounds of any size, on the edge of the development and not in the middle. To develop a site for building, with the services and so on, costs about £2,000 per acre, so that if the larger open spaces are put in the middle of the lay-out it means that open spaces are being developed at £2,000 an acre.

In the conflict between traditional construction and prefabricated construction,



Angle of block wall showing plaster setting coat applied direct to blocks, and distempered in two colours, as test

we are perhaps placed more fortunately in the south of England, in that we have a multiplicity of bricks of different kinds, and the use we have made of them has confirmed our belief that brick is one of the finest building materials that one could possibly have.

I feel that architects have been inundated for many years—certainly since the beginning of the war—with technical papers and technical reports. As architects we are, I know, extremely grateful to the Building Research Station and the various associations which pour forth this great glut of reports almost as quickly as Parliament produces regulations, but I find it very difficult to keep pace with them.

Mr. J. R. Kell, A.M.I.C.E.: I was very much interested to hear the lecturer's remarks on the subject of district heating, because I was concerned with the district heating scheme for Aycliffe, and the lecturer and I wrestled with this problem for many days and, I might say, for many nights. I am surprised that he does not know why the scheme was turned down. I have brought with me an extract from HANSARD of last July, in which Mr. Geoffrey Cooper is reported as asking the Minister of Town and Country Planning on what ground it was decided that district heating schemes should not be proceeded with in the new towns. Mr. Dalton replied: 'It was only one new town where this was contemplated. I was satisfied that it would not pay.'

The main burden of that is that Mr. Dalton thought 'it would not pay'. I have never quite understood what he meant by that, because, as Mr. Grenfell Baines knows, reports were prepared and there were further amplified and revised reports, and so on, and I think the figure per week started at about 7*s*. 6*d*., but, by Ministers thinking of other ways of spending money, it gradually crept up and up. We got very little help of a positive nature from any Ministry; what was done seemed to me to be on the negative side, to try to kill the scheme, and finally the cost came out at about 8*s*. or 8*s*. 4*d*. per week.

As the lecturer said, the social side may have had some contributory influence in the scheme being turned down at Aycliffe. Another contributory cause was that people come to live in the new towns from villages and other places where they are perhaps paying a rent of 12*s*. 6*d*. or 15*s*. per week, and they are pushed into a house in the new town at a rent of about 26*s*. or 28*s*. per week. If they are also asked to pay another 8*s*., 9*s*. or 10*s*. per week for heat, whether they want it or not, the total becomes out of all proportion, and district heating was the easiest thing to cut out.

Mr. F. Douglas Ward: The main technical problem, as I know personally, is that we must get back to some of our pre-war methods of dealing with labour problems in building. The present system is absolutely hopeless. The men spend far too much time on doing a job and they do not do it properly.

Mr. T. J. Whittaker [*A*]: The lecturer said that the Schindler houses were lined with sheets of plaster-board. Does he consider that that is a suitable material for wall surfaces in that type of house? Is it sufficiently strong and durable for the life that the houses are likely to have?

The lecturer also mentioned the importance of thermal insulation. Aluminium foil has been having a considerable vogue for insulation behind plaster-board. Does the lecturer think that it is a suitable material, as it is likely to tarnish? Its insulation is purely based on its reflective properties, and if laid over the ceiling its insulation is likely to be greater from the quantity of dust accumulating on top of it than from its reflective value.

Mr. H. F. Reifenberg: The lecturer referred to houses with their rooms facing west and south, but some people like their bedrooms to face east, and I should like to know what the lecturer thinks about that.

Mr. Hartley [*A*]: Would the lecturer tell us a little more about summer water heating? If in fact it is necessary to have water heating during the summer, is it necessary to warm the whole house during that period?

In connection with the electrical system to which the lecturer referred, I should like to ask him whether the switches are wholly controlled by the cord. What happens to the socket outlets, if there are any? I have no doubt that he provides an electric iron, etc. Are those controlled in the same way or has he devised a means of dealing with the conduit or the socket outlet in a similar manner?

Mr. W. H. Cheesman: The lecturer referred to its being essential for each house to have a private garden. I have found that many people consider it essential to be able to sit in their front rooms or front gardens and watch the passing scene. Has the lecturer found that in the north, or can he disregard it?

Miss Rachel Caro [*A*]: Does the lecturer find that the convected heat makes an appreciable amount of difference to the cost of ducting, and is it worth the money?

Mr. C. Featherstone [*A*]: What views has the lecturer on the insulation of the solid concrete floor, when one is tied by cost to something like an asphalt tile?

Mr. G. Grenfell Baines (in reply): With regard to Mr. Sheppard Fidler's remarks, I envy him for his ample supplies of brick, but I believe that our scarcity of bricks has brought us, at least for inner linings and partitions, towards a technique which will even help Mr. Fidler and his colleagues in the south.

The lining of the plaster-board is in two thicknesses; it is $\frac{3}{4}$ in. altogether, and it is supported in a sub-frame at no more than 3 ft. centres. Practical experience shows that this lining is able to stand up to knocking about far better than the $\frac{1}{2}$ in. insulation-board which has been used in other prefabricated forms of construction.

I would not think of using aluminium foil on plaster-board for ceiling insulation, because the accumulation of dust would destroy its reflective properties; we use glass wool, and the foil for walls, where there is not the same tendency for dust to accumulate.

I agree that bedrooms which face east are very pleasant, and to have morning sun in a bedroom is a great advantage. Probably as many people like their bedrooms facing east as west, but many people, especially in this climate, want the warmest possible aspect for their bedrooms, and they want the sun when it is at its best, in the afternoon.

The summer water heating problem is dealt with in two ways, namely, by the use of an immersion heater, cylinders being bossed and power plugs provided, or by the use of check valves on the main return, which ensures a direct circulation between the heating unit and the cylinder itself. Most of the modern fires have very good control over fuel consumption, some going down to as low as $\frac{1}{2}$ lb. of fuel per hour. The check valve and the duplicate return are vital for flexibility of switching from space warming to hot water warming.

With regard to the electrical services, I have kept the application which I mentioned to the lighting, of which there are many more points than the power. The power outlets are generally taken up from the first floor and down to the ground floor, and there is a small amount of vertical conduit in that case.

We find that people do like to sit in the front of the house and look out, but the fact is that if you have nothing but provision for sitting in the front of the house you may miss the private garden. It is better to provide both.

The convected heat is worth the money. The cost of ducting from some internal space is about £5 per outlet. We first tried our air inlets from the outside, and discovered that we were almost in effect putting a 6 in. hole through the outside wall. We then went over to recirculation principles and took air from the hall inside the house; later, we have allowed the inlet to come from the living-room. We avoid allowing living-room air to go into bedrooms. It is thus necessary to separate the convection chambers, if convected air is to be given to bedrooms, and to make provision for cleaning the flues and getting rid of the products in the air which are burnt when it passes over the hot surfaces of the boiler. The answer, therefore, is that convected air is worth while, but it is better put into the hall or the landing, and it is better recirculated.

Ground floors of solid concrete are better than wooden floors but are colder to the feel and generally colder in appearance. I wish that we could afford asphalt tiles. We have had to use a mixture of cement and cork chippings, which is not a bad finish.

Finishes on floors vary enormously. In some of our middle income group houses, where we have spent an extra £150, at an extra rent of about 2*s*. 6*d*. a week, we have put in wood strip floors, and I look forward to the day not when we abandon the solid concrete slab floor, because I think that is an advance in construction, but when we can finish it with a boarded finish. Perhaps that day will be when the productive powers of our country return to what they used to be.

The Chairman: With regard to district heating, I have been very anxious to use district heating in various places and have examined the subject with very great care. It is quite obvious that the first bar to the widespread use of district heating in this country is our very mild and uncertain climate. In many winters hardly any heating is used by certain people, and if in those winters they had to pay a regular charge of 8*s*. or 10*s*. a week they would regard it as a serious extravagance.

I am glad that reference has been made to the technical information supplied by the research stations. I always feel that they have so far failed to find the right method of conveying the results of their researches to architects as a body. We can not wade through their long descriptions which tell us precisely why the elastic limit was reached in a building and two hair cracks were caused. We want something which is published about once in three years, with a series of very clear headings and a telegraphic kind of summary, and an appendix at the end giving the details which support the telegraphic summary, for the benefit of those persons who want to know the details. I should like to see something divided into headings, in good black type, which will tell me, for instance: If you do not want your partition to crack, do this, and the chances are that you will be all right, but, if you do not think you will be, turn to Appendix 27 and you will know all about it.

In Crawley we have had about 2,000 people through the houses and we have listened to their comments. It is very interesting to note that there are two things which they ask for more than anything else; one is a front door of their own (they do not like common staircases to flats), and the other is a piece of garden, however small.

The 113th Annual General Meeting of the R.I.B.A.

1 May 1951

The President in the Chair

The President: I have to present the Report of the Council and Committees for the official year 1950-51 and to move that the Report be received. The Chairmen or other representatives of all the Committees whose Reports are appended to the Council's Report have been asked to attend this meeting so as to be in a position to answer any questions that may arise in connection with these Reports.

The Hon. Secretary: I beg to second the motion.

The President: The meeting is now open for discussion.

Mr. H. S. Scorer [*A*]: Is it in order to make a comment arising out of the award of the Gold Medal? What I want to say is not in the least personal. I am principally concerned with the important effect that the award can have upon the young architect, and the guidance which it can imply.

At the present moment the fundamental social problem which is facing all architects is to build cheaply and to build beautifully. Perhaps on a future occasion an award could be made which might give more clearly the guidance which I think all the members of the professions would appreciate, as to how the architect can set about building cheaply and beautifully, and how he can use the materials in their most appropriate way, a point which I feel did not arise at all in connection with the award of the Gold Medal this year.

Directly arising from this question of how as a profession we can try to fulfil the social requirement of building cheaply, there is the question of how that can be related to the payment of the architect. The real issue is this, that to build beautifully and cheaply requires a great deal more time, energy and effort than to build expensively and beautifully. Any person who, in his professional capacity, is trying to fulfil these requirements, automatically finds himself at an economic disadvantage, and I should like to ask whether, in view of the requirements which are felt throughout the country and the demands that are made upon architects at the present moment, some reconsideration could be given to the scales of salaries for architects.

The President: I have some difficulty in answering all the points which you have mentioned and which you have tied on to the award of the Gold Medal. I think you must regard the Gold Medal as a very special award given for a life's work, and not in relation to immediate economics.

Mr. D. N. Martin-Kaye [*F*]: I should like to refer to the paragraph on page 6 of the Annual Report which deals with the constitution of the R.I.B.A. Visiting Board and to enquire whether this decision represents the last word of the Council on the question of amendment of constitution.

Since the activities of the Visiting Board play a most important part in the educational policy of the Institute, I would ask whether the Council and the Board of Architectural Education consider that its composition is sufficiently democratic in nature and that its procedure leaves no room for improvement. It is to be assumed that the personnel of the Visiting Board is decided on by the officers of the Board and is subsequently ratified by the Council.

I would submit that, since the schools of architecture, Intermediate and Final, bear so much the heat and burden of the day and their principals have to account to their governing bodies direct for their findings, they should have a greater say in who should be nominated to undertake the work of inspection, and I do not think that it would be unreasonable to ask that this should be the subject of a ballot amongst the schools concerned, so that they may know the names of those who are to sit in judgment on their work.

This suggestion may not commend itself to many schools of Final or University status, which enjoy a comparative degree of independence outside this Institute, but it is of vital concern to the many schools which are controlled by the State, both existing now and to exist in the future.

The ideologies and conditions which prevail in these two types of schools can bear little or no comparison; hence it would appear obviously essential that the personnel of the Visiting Board should be relevant to whichever class of school it proposes to visit in any year, in addition, of course, to certain representatives nominated by the Board as it thinks fit and necessary.

I would also submit, to quote the report, Clause 1, Section 4, 'two other ordinary (practising architects) members', that these members in practice should be drawn from those who have had teaching experience, since no member who has never taught, however substantial his practice may be, can have the slightest conception of the mental or psychological approach necessary in teaching or the running of a school. A teacher is born and not made, and there is far too glib an assumption that between the teaching of architecture and its practice there is little dividing line. Complementary they should be, of course, but there is a very great distinction between them. I can not help feeling and saying that there is great room for improvement in the recognition of the teacher and the signal service that he renders to the profession and this Institute in particular.

Since it is considered necessary to have a Visiting Board to sit in judgment on the teacher's work and equipment, I would at least plead for continuity and logic in the framing of its reports.

It is the custom of the Visiting Board to visit every Intermediate school once in every three years and the Final once in every four or five years. The Board does occasionally make out-of-routine visits. It does not follow that the same members visit the same school on consecutive occasions. Hence the reports vary and can be exceedingly contradictory and consequently very damaging.

I speak with very bitter experience, as these reports caused me the utmost misery and worry in the sphere in which I had to work, intensifying beyond measure the difficulties with which I had to contend in dealing with an extremely difficult governing body. Fortunately I am now enjoying the greatest freedom from worry that I have had for over 25 years.

In the absence of any distinct formula or syllabus laid down in teaching, which is hardly possible or desirable, as it would militate against individual incentive and interpretation, which must perforce differ in the various localities with their own peculiar problems and circumstances, I can not quite see the justice or fairness, however tempting, of drawing comparisons between one school and another, which can so very easily be to the possible detriment of any one school in particular. I submit that each head of a school should have the right to observe what other schools are doing.

I have only two more suggestions to make. One is that the external examiner should be empowered to attend each inspection, since any report, adverse or otherwise, must affect his position, and he probably knows more about the school than any other member of the inspectorate. In fact, I suggest that it should be obligatory upon him to do so.

The students, whether they enter official or private practice, will follow us in this Institute, and, quite frankly, it is a mystery to me that there is not a strong Students' or Junior Committee, with representative and liaison powers, so that the Committee representing this class could, amongst other matters, nominate one of its number at an Intermediate school and one from a Final school to accompany the Visiting Board, and thus have an opportunity of gaining an insight into policy and methods governing the whole system of architectural education, before we seniors make things too difficult or even impossible for them.

Mr. Kenneth Cross [*F*]: I do not propose to deal in detail with all the novel suggestions made by Mr. Martin-Kaye, but I must say most emphatically at the outset that Mr. Martin-Kaye is obviously quite out of touch with the current feeling throughout the country, particularly in the Allied Societies. The profession nowadays is demanding hard-headed practising examiners rather than purely academic teachers. Inbreeding amongst the schools of architecture must not be encouraged.

There is ample provision in the constitution of the Visiting Board as now amended by the recent decision of the Council for the representation of the schools of architecture. The Visiting Board contains two headmasters of recognised schools. The Visiting Board works as a team, and cooperation between all interests represented on the Visiting Board is of the closest possible kind. The personnel of the Visiting Board is drawn up for presentation to the Council annually by the Board of Architectural Education, upon which the schools with Intermediate and Final recognition are amply represented. It will be seen, therefore, that the schools actually have a vote over the annual membership of the Visiting Board.

Quite obviously the Visiting Board is not composed of precisely the same personnel when visits are paid to schools over three or four years, but steps are taken to preserve continuity of outlook in that succeeding Visiting Boards are always made fully aware of the reports drawn up by their predecessors. I will not pursue this particular point further, for it is Mr. Martin-Kaye himself who has almost drawn into this discussion some personal aspects of the general question with which he is striving to deal. There is already ample provision for close liaison between the Visiting Board and the External Examiners acting at the various schools of architecture.

The suggestion that the Visiting Board should include one student from an Intermediate school and one student from a Final school is one to which I could not possibly subscribe.

I have myself while serving as an officer of the Board of Architectural Education visited a large number of schools over the last few years, and I can assure the meeting that the Visiting Board is scrupulously fair in the weight it gives to all relevant considerations which arise in connection with drafting its reports.

Mr. T. E. Scott [*F*]: I should like to support what the Chairman of the Board has said, perhaps from another angle, that is, from the point of view of the schools. I am quite sure that the heads and the staffs of the schools in no way resent this changed composition of the Board. We have an important part to play in the schools, but I think we all recognize that we are primarily concerned—or we should be primarily concerned—with serving the profession, training men and women to enter upon their professional careers, and the closer our liaison with the profession and the elected representatives of the profession the more effective our work will be. For that reason I think it is a good thing that the Visiting Board has been strengthened. I served on the Visiting Board on two separate occasions, and I know how hard it has to work in the time it gives to its visits to schools, in order adequately to cover all phases of the work undertaken. I know, therefore, that the numerical strengthening of the Board will be a very good thing. Some of us know also that there is in some cases a gap between the work of the school and the work in the profession, and I believe that the more collaboration and guidance that the schools can get from representatives of the profession (whether they are architects in private practice or in official service is beside the point) the more effective their work will be. I am quite sure that the schools themselves will welcome this change in the constitution of the Board.

Mr. Thurston M. Williams [*A*]: First I should like to say how much I, as someone who has only recently passed from the position of being a student to that of being a member of the Institute, agree with a great deal of what Mr. Martin-Kaye has said. In particular, I think he will get the very welcome support of students in the suggestion that they should be represented on the Visiting Board. I think that the students are looked upon by many people as an irresponsible body, but the fact remains that they have a great respect for the Visiting Board, and I think that, if the students themselves could have an opportunity of being represented on the Board, the effect on the working of the Board would be very good. I hope that this proposal put forward by Mr. Martin-Kaye will receive some further consideration by the Board. In addition, if the unrecognized schools could have representation on the Board that also would benefit the working of the Board. This is in no way to be taken as a criticism of the working of the Visiting Board, but I think that Mr. Martin-Kaye is right in believing that the Board would be strengthened and its task made easier by this form of representation.

On the first page of the report there is a paragraph headed 'Liaison with Government Departments'. At this time last year we discussed the reports issued by the Joint Committee concerning man-power in the professions and in our own profession in particular, and one of the recommendations in these reports was that the numbers entering our profession should be limited. Quite apart from whether or not one agrees with this, I should like to bring direct attention to the fact that quite recently, in the estimates submitted by the Ministry of Education to the House, there was a proposal that the grants and maintenance given to students by the Ministry of Education for the coming year should be reduced by £4,000,000. I believe that, if there is to be any limitation of the number of students entering our profession, it is most dangerous for that limitation to be effected by the cost of their education.

It is in the light of this that I should like to express concern with regard to the results in the R.I.B.A. Intermediate and Final Examinations, which are given on page 7 in the report of the Board of Architectural Education. It will be seen that of those who entered for the Intermediate Examination only 38 per cent passed, and that of those who entered for the Final Examination only 37 per cent passed. If these figures are the average, as I believe they are, it would appear that of all those people who try to enter the architectural profession only 10 per cent finally make the grade and pass and become members. Many of those people who do not manage to pass the examinations will wish to make further attempts to do so, but if their grants and means of living are reduced (as I think they must be if Parliament accepts the recommendation of the Ministry of Education to reduce its estimates) it may well be that they will not be able to afford to take the examinations again, and will therefore have to start afresh and look to other professions or other means of earning a livelihood. It does not seem to me that this is the best way of obtaining the finest recruits to our profession, and I hope that the Institute will bring this to the notice of the Government through the means of liaison which are open to it.

Mr. Kenneth Cross [*F*]: The percentage figures given relate to performance and do not refer to the ratio.

The President: I do not suppose that Mr. Thurston Williams is suggesting that we

should lower the standard of the examinations in any way.

Mr. Thurston M. Williams: No, by no means. The point I am trying to make is that, if by means of a reduction of the grants to students it becomes more difficult for a student to study, this will be reflected in the percentage of people passing the examinations, and if a student does not pass the Intermediate or Final Examination the first time he takes it, because he is ill or for any other reason, if the grants are reduced he may not be able to enter for it again.

Mr. Hubert Lidbetter [*F*]: With regard to the examination results, I do not think we need shed many tears over the 63 per cent who fail. Their performances are in accordance with the result of their examinations.

As to the Visiting Board, I very much hope that, apart from the one additional member, whose inclusion I very much appreciate, the Board will not be made into an unwieldy body by further additions. I really do not think I could agree to the addition of students.

Mr. D. H. McMorran [*F*]: May I draw attention to what appears to be a slight irregularity in the Report of the Architectural Science Board? In the list of members of the Board, two members are described as being 'nominated by the Council'. That seems to imply that the remainder are appointed in some other way, and that strikes me as being constitutionally irregular.

The President: I think the short answer is that a slight mistake has been made. All the members of the Architectural Science Board are appointed by the Council.

Mr. D. H. McMorran: I realized that it was probably a small matter of that kind, but I thought that I would raise it, because it does, to my mind, draw attention to the impression created by the Board that it acts in some respects as an autonomous body. It seems to have its own public relations machinery, and its efforts seem to be out of proportion, one feels, to the results obtained. It labours from year to year and produces the usual string of mice, some of which appear to be stillborn. I feel that the way in which the Report is presented tends to confirm this unfortunate impression of the Board's work.

Mr. Howard Kelly [*A*]: I should like to refer to the second paragraph of the Report of the Architects' Registration Council (page 13), which says: 'Additions have been made to the Code of Conduct prohibiting an architect from soliciting publication of illustrations or descriptions of his work in the press for the purpose of increasing his practice or from soliciting the publication of his designs or name in the advertisement of a commercial firm.' I wish to protest against this as an unfair ruling. It gives official architects an advantage over private architects, inasmuch as they have no practice to increase and therefore can publish their work *ad lib*. It prevents the democratic machinery of this organization working as it should, as members are elected to the Council by other members who can only judge the work of those members by their published works, and unless they have put up buildings in the streets perambulated by the staffs of the architectural press their works are never likely to see the light of day. Alternatively, every editor must employ a staff to ensure that every architect has a fair opportunity of having his work published in the press. Moreover, this is a regulation that can be easily overcome by any quick-witted Irishman, and I feel that it is unfair to put Englishmen at a disadvantage when we have so many other regulations that we can so easily overcome. This regulation can not be properly enforced, and it is unfair to official architects and to architects in private practice in small towns, whose work may be better than that of architects in large towns.

Mr. E. D. Jefferiss Mathews [*F*]: I appreciate the points which have been raised, but I think all I can say at the moment is that the wording in question is perhaps a little stronger than the Registration Council intended. A great deal of this must be taken on its merits. The Registration Council feel that there have been in the past cases in which there has been some abuse of the publication by professional journals, and it was with the object of preventing that abuse and warning members of the profession of the dangers which underlay the possibility of over-publication that the Council deliberated at some length on this matter. In those deliberations the Council consulted with editors of professional journals. I feel that the Council would wish the words here to be given a rather wider interpretation.

The Secretary: May I point out that, although this is included in the Annual Report, it does not actually form part of the report, and we are not really responsible here for replying on behalf of the Architects' Registration Council. The material is that supplied by the Registrar.

Mr. G. F. Whitby, M.B.E. [*A*]: May I ask some questions about the accounts? First, do the sums of £27,127 0*s.* 3*d.* and £4,999 9*s.* 5*d.*, against salaries and housekeeping respectively, include all the salaries and all the wages paid to all members of the Institute's staff?

The Hon. Treasurer (Mr. A. L. Roberts) [*F*]: My remarks in reply will be in regard to the Income and Expenditure Account on pages 16 and 17 of the report. The short reply to Mr. Whitby's first question is that the figures do not include all the charges. The salaries of four full-time and one part-time JOURNAL staff, amounting to £2,752 for 1950, are charged against the JOURNAL Account, which is supposed to be self-supporting, except for certain charges of distribution which are taken into the Income and Expenditure Account on page 16 under the heading of 'Journal, Kalendar and Library Bulletin.' You will see that the charge against the JOURNAL there is £2,659 14*s.* 3*d.* That is a net amount which is chargeable, having taken into account the salaries which I have mentioned.

With regard to the second item mentioned, £4,999 9*s.* 5*d.*, a similar point arises with regard to the Canteen Account. The salaries of five full-time and two part-time canteen staff, amounting to £1,574 18*s.* 6*d.* for 1950, are charged against the Canteen Account, and this having been taken into account, the net cost is £58 10*s.* 4*d.*

Mr. Whitby: I am sure everyone will agree that that is a complete reply. My second question is this. For the last four years a figure of £1,000 precisely has been appended to an item labelled 'Exhibitions'. It would seem beyond the bounds of coincidence that exhibitions during the last four years have cost precisely £1,000 each year. If at any time they have cost less than £1,000 there should be a corresponding credit somewhere on the right-hand side of the page. If they have cost more, the extra cost must be included under some other head. Could I be informed of the precise cost of exhibitions over the past four years and of the means by which the debit or credit balance of the £1,000 has been absorbed into the accounts?

The Hon. Treasurer: I am glad of an opportunity of explaining this perhaps somewhat complicated matter. In 1947 it was decided to allow an annual grant of £1,000 for exhibitions, any unspent balance each year to be available for use in the ensuing year. The effect of that has been as follows: In 1947 the sum spent was £19 8*s.* 6*d.*, which left a balance of £980 11*s.* 6*d.* available in the following year. In 1948 we credited £1,000 to the account, and the expenditure was £1,131 13*s.* 9*d.*, so the balance carried forward to the next year was £848 17*s.* 9d. In 1949 the expenditure rose to £1,385 18*s.* 4*d.*, which gave a credit balance of £462 19*s.* 5*d.* In 1950 the sum spent was £875 0*s.* 7*d.*, which left an unspent balance of £587 18*s.* 10*d.* In those four years there was a total allowance of £4,000, and the total expenditure amounted to £3,412 1*s.* 2*d.*, which with the unspent balance of £587 18*s.* 10*d.* exactly balances the allowance of £4,000. In the Balance Sheet the first item under the heading of 'Liabilities' is 'Sundry, £17,559 2*s.* 5*d.*', and that sum includes the unspent balance of £587 18*s.* 10*d.*

Mr. Whitby: That shows what can be buried in these balance sheets! I apologize to the officers who have had to delve back into the figures of past years. I looked through the balance sheets of past years before I framed these questions, and, reading the reports, it gave me good grounds for offering my sympathy as well as my apologies to the officers.

There is one Committee which was very flourishing four or five years ago. It has

never been officially killed or buried. I refer to the JOURNAL Committee. Is that Committee still alive?

The Secretary: The JOURNAL Committee was an *ad hoc* committee to advise on the changed arrangements of the JOURNAL. Directly it finished its work it was discharged, and any JOURNAL questions are now dealt with by the Finance Committee, if financial, or by the Executive Committee of the Council.

Mr. Whitby: I am sorry that I missed its obituary.

The first reference that I can find to the Codes of Practice Committee is in 1947. This cropped up again in 1948 and 1949, and all responsibility for its products was disclaimed. Here, in this Annual Report, I find it is properly legitimized, for we have a *résumé* of the work of the Codes of Practice Committees on page 1 of the Report. This says that there are three Committees. They have produced these Codes of Practice, or at least I should like to be assured that these are their productions. I refer to the British Standard Codes of Practice prepared by Codes of Practice Committees under the aegis of the Ministry of Works.

Mr. Charles Woodward [*A*]: Mr. Whitby holds a document in his hand and is reading the front page. If he will take the trouble to look inside he will find who are responsible for the Codes in question.

Mr. Whitby: Inside it says that the Committee responsible for the Code of Practice on painting, staining and varnishing wood and treatment with preservatives is one convened by the Royal Institute. There are several pages in the Code, which costs 2s. Some years ago at an Annual General Meeting a member asked whether the Codes of Practice which can be obtained from the Ministry of Works for 2*s*., and which consisted mainly of a table of contents and a list of the members of the Committee, were the product of any Committee of this Institute, and paternity was most decisively denied. However, if their existence is now recognized and they have been legitimized, well and good.

I wish to refer to the Architectural Science Board. In the Annual Report of the Institute there are the reports of eight committees, and inside that we have the Architectural Science Board, who also have eight committees—as many as the Institute have. These committees deal with an even wider range of subjects than do the committees of the Institute. Let me quote some of them.

This Architectural Science Board has a Legislation Sub-Committee, which deals not with legislation but with legal and quasi-legal matters. It claims that there are numerous matters of this kind which come before it. Over the last three years it has quoted one continuously, the law of defamation as it may affect the architect. For three years this Legislation Sub-Committee of the Architectural Science Board has been sitting on this one item, and at last a statement is being prepared for publication.

The whole report, in my view, is unnecessary, and the Board itself is unnecessary. It prides itself on its liaison with the Royal Fine Art Commission and with the London School of Hygiene and Tropical Medicine. I suppose that there is some reason for an Architectural Science Board having liaison with these two bodies, but I fail to see it.

The Board also has a committee, which calls itself a Study Group, which concerns itself with the application of social science to design—as if social science was a science—and design particularly where the community is the building client. 'The Board', we are told, 'have concentrated on the requirements in factories.'

I am not going to condemn all this work out of hand. Some of it is necessary. The work of going through the London Building Acts to ascertain which clauses can be expressed as performance standards is an admirable thing for a committee of the Institute to do. Another good thing is the 'vetting' of the programme of the Council on Building Research. Incidentally, you would think that the Architectural Science Board would be able to make some contribution to the programme of the Building Research Station, but in fact when the Building Research Station put its programme forward the Architectural Science Board said that as far as they were able to judge the field was adequately covered. I agree with that, and also with the fact that they work with the B.S.I.

Mr. Lister P. Rees [*A*]: I have not much to say, but I ought to say this as far as the Board's work is concerned, because it is obvious that there is one member who does not know much about it. The Board does concern itself very much with an enormous amount of work which does not get into a report. This liaison with outside bodies is important for the Institute, and the Board maintains that liaison. To publish every little thing that is done in a report of this description is quite impossible. We issue for our own members a rather detailed typescript report, and if anyone else would like to see a copy of this it can be made available to him. The main idea of the Architectural Science Board's report here is to give a general idea to members of what the Board is doing. We could, under the heading 'British Standards Institution', have written four or five pages.

As far as the Legislation Sub-Committee is concerned, we have mentioned only two or three things which they have done, but there are very many others, which again could fill several pages. It is not what the Architectural Science Board produces that counts, but what it is—an indication that this Institute is very much interested in research and is very much interested in new techniques, and that it makes sure that its contacts with outside bodies on these matters are maintained.

On the question of the law of defamation, it is true that we have been in a great deal of difficulty, mainly because we have not been able to get our legal advisers to come down squarely on one side of the fence. You will all appreciate what a tricky matter this is, and I can assure Mr. Whitby that when this particular statement which is being prepared for publication appears it will not be of very great value to him. It is a matter which we have tried very hard to get cleared up, but I am afraid it is almost insoluble.

Mr. Sydney Redfern (Solicitor): I do not quite know what is the complaint about the lawyers not coming down squarely on one side of the fence, but a number of hedges have been put up. I was asked to say what the position would be under the law of defamation if a certain report of a certain committee or commission were turned into law. Nobody has ever heard of any report of any commission being turned into law in precisely its terms, and that is therefore a very difficult question to answer. I think that the law of defamation at the moment is such that no wise man would come down plump on one side of the hedge or the other.

Mr. Whitby: This little exchange shows the complete incompetence of the Architectural Science Board in a legal matter. For three years they have tried to get Mr. Redfern to come down on one side of the fence, assuming, as many scientists, and especially quasi-scientists do, that there is a right and a wrong side. There are Committees of this Institute which would have dealt with this matter in five minutes, and which could have told the Science Board that they would never get a ruling out of Mr. Redfern on such a matter, nor out of any other lawyer.

Mr. Richard Henniker [*F*]: The Architectural Science Board seem to have prepared an enormous number of reports, and I understand that the Executive Committee spend an immense amount of time in reading them. A few of them are published, but what happens to the remainder?

Mr. Whitby: Would it be pertinent to plead that they be not published?

The President: Mr. Rees has already given the answer. There are many matters which are dealt with which do not achieve publication. Some of them may still be under consideration.

Mr. Henniker: I appreciate that, but I was referring to those which were published.

Mr. Rees: I think that most of the reports have in fact been published in the JOURNAL. Whether they have been read by members I do not know, but they have certainly been published.

Mr. D. H. McMorran: We shall all have noticed the report in the last issue of the JOURNAL on dimensional standardization. Some members, like myself, may have found themselves in flat opposition to the premises and to the conclusions of that report.

The President: If the discussion is now closed, I will ask you to vote upon the

resolution, as follows: 'That the Report of the Council and Committees for the official year 1950-1951 be received.'

The resolution was carried.

The President: The list of attendances at the meetings of the Council has been laid on the table and will be printed in the next issue of the JOURNAL, and also sent out to members with the voting paper.

I beg to move that a hearty vote of thanks be accorded to Mr. Brian Peake [*F*] and Mr. Charles Sykes [*A*] for their services as Hon. Auditors for the past year.

The motion was carried by acclamation.

The President: Mr. Robert O. Foster [*F*] and Mr. Charles Sykes [*A*] are both eligible and willing to be nominated as Hon. Auditors for the current year. If it is your pleasure, I beg to move that they be so nominated.

The motion was carried.

The President: That concludes the business of the meeting.

Nominations for the 1951 Council

In accordance with a decision of the Council candidates nominated for election have been asked to give the following brief particulars for the information of members:—

(A) Address; (B) Date of birth; (C) Degrees, affixes, prizes, publications and distinctions; (D) Type of experience, e.g. official or private practice; (E) Type of practice, e.g. churches, schools, housing, industrial, etc.; (F) Previous service on R.I.B.A. Council and Committees, the Architectural Association or an Allied Society; (G) Military or any other form of national service.

The following candidates have been nominated:

AS MEMBERS OF COUNCIL

Bennett: Hubert. Nominated by the Council under Bye-law 34. (A) 24 North Grange Road, Headingley, Leeds, 6; (B) 4 September 1909; (C) F.R.I.B.A., Rome Scholarship in Architecture—special prize, 1936; R.I.B.A. Arthur Cates Prizeman, 1933; Soane Medallist, 1934; Neale Bursar, 1936; Wimperis and Godwin Bursar, 1948; (D) Studio Master and Lecturer at the Leeds School of Architecture and at the Polytechnic School of Architecture, Regent Street, London; Private practice, 1933-40; Borough Architect of Southampton, 1943-45; West Riding County Architect, 1945-51; (E) In private practice: Schools in Lancashire, Yorkshire, Surrey and Hampshire; Ecclesiastical and industrial work; Local authorities: Present building programme for the W.R.C.C., including educational, police, fire service and health work; (F) Hon. Secretaryship of the R.I.B.A. Social Committee; Salaried Members' Committee; Competitions and School Design Committees; Member of the Prize Jury in connection with the Tite Prize, Soane Medallion and Victory Scholarship; Member of the Council of the West Yorkshire Society of Architects, and Chairman of the Wakefield Branch; Chairman of the East and West Riding Housing Committee (Ministry of Health); (G) Captain Supervising Architect —War Office.

Casson: Hugh Maxwell. Nominated by the Council under Bye-law 34. (A) 110 Old Brompton Road, London, S.W.7; (B) 23 May 1910; (C) M.A.(Cantab)., F.R.I.B.A., Craven Scholar, Athens 1932; Author of *New Sights of London* (London Transport 1937), *Homes by the Million* (Penguin Books Ltd., 1945), *Bombed Churches as War Memorials* (Arch. Press, 1945), *Houses: Permanence and Prefabrication* (Cresset Press, 1946) (With Anthony Chitty [*F*]), *Victorian Architecture* (Art and Technics, 1948); (D) Private Practice, 1935-39; M.O.T.C.P. Technical Officer, 1944-45; Private. 1945-48; Director of Architecture, Festival of Britain, 1948-51; (E) General; (F) Member R.I.B.A. Schools Committee, 1947-48; Member A.A. Council, 1946-48; Vice-President elect A.A., 1951; (G) Camouflage Officer, Air Ministry, 1940-44.

Denman: John Leopold. Nominated by the Council under Bye-law 34. (A) 27 Queen's Road, Brighton, Sussex; (B) 15 November 1882; (C) F.R.I.B.A., F.S.A., R.I.B.A. Dist. in Town Planning; (D) Private Practice; (E) General; (F) Honorary Treasurer, 1945-50; Vice-President; Member of Council since 1937; (G) Served with Royal Engineers during 1914-18 War.

Easton: John Murray. Nominated by the Council under Bye-law 34; (A) 53 Bedford Square, London, W.C.1; (B) 1889; (C) F.R.I.B.A., Godwin Bursar, 1927, R.I.B.A. London Architecture Bronze Medal, 1928 and 1936; R.I.B.A. Architectural Bronze Medal for Essex, Cambs. and Herts., 1937; (D) Private Practice; (E) University Building, Science and others; Hospitals, Office buildings and General Practice; (F) Vice-President, 1945-47; on Finance and House and other Committees; President, Architectural Association, 1939-40; (G) With London Scottish in France and Belgium from 1914.

Fisk: Walter William. Nominated by J. S. Walkden, *Fellow*; H. C. C. Bender, D. J. Cole, R. K. Harington, J. S. Lacey, M. H. Russell, G. M. Toplis, *Associates*. (A) 24 Buckingham Street, Adelphi, W.C.2; (B) 12 December 1910; (C) A. A. Dipl., F.R.I.B.A., R.I.B.A. Henry Jarvis Student at A.A., 1932; (D) Private Practice and Teaching; (E) Housing. Industrial, Commercial and Public Buildings; (F) R.I.B.A. Examiner in Design; (G) 1942-45 Royal Engineers.

Forward: Maurice Howard. Nominated by P. F. Burridge, Leonard C. Howitt, F. Mellor, Thomas E. North, S. M. Richmond, C. C. Shaw, *Fellows*; A. Sutton, *Associate*. (A) Council Offices, Catford, S.E.26; (B) 7 March 1903; (C) F.R.I.B.A., F.R.I.C.S.; (D) Official, Housing, Schools, Libraries, Hospitals, Baths, Municipal offices, etc.; (*F*) Hon. Assistant Secretary of the City & Borough Architects' Society and Member of the Standing Joint Committee with the County Architects' Society, Member of the Society of Metropolitan Housing Architects and Directors; (G) Civil Defence, 1939-45.

Halliday: Franklyn Leslie. Nominated by the Council under Bye-law 34. (A) 14 John Dalton Street, Manchester 2; (B) 5 March 1897; (C) F.R.I.B.A., A.M.T.P.I.; (D) Private Practice; (E) General, including Churches, Schools, Housing, Industrial; (F) Hon. Secretary Manchester Society of Architects, 1933-39; Vice-President Manchester Society, 1944-45 and 1948-49; President, 1950-51; R.I.B.A. Council, 1949-51; (G) Army, 1916-19; N.F.S., 1939-45.

Haseldine: Cyril Francis William. Nominated by the Council under Bye-law 34. (A) Halifax House, Milton Street, Nottingham; (B) 15 May 1893; (C) T.D., F.R.I.B.A.; (D) Mainly Private Practice; (E) Housing, Industrial, Schools, Special Buildings for War Office (Drill Halls, Married Quarters, etc.); (F) Two years on R.I.B.A. Council; Two years on Professional Conduct Committee; President, Nottingham, Derby and Lincoln Architectural Society; (G) Commissioned Service in Army, August, 1914-18; December 1938-August 1945, Major.

Heysham: Terence Ernest. Nominated by Professor Hector O. Corfiato, Denis E. Harrington, Harold E. Moss, Geoffrey T. Mullins, Sydney R. Turner, R. C. White-Cooper, *Fellows*; J. A. V. Clark, *Associate*. (A) 4 Verulam Buildings, Gray's Inn, W.C.1; (B) 9 March 1897; (C) F.R.I.B.A.; (D) Private Practice; (E) Public and Commercial Buildings, Hospitals, Domestic; (F) Nil; (G) Active Service 1915-18.

Howitt: Leonard Cecil. Nominated by the Council under Bye-law 34. (A) City Architect, Town Hall, Manchester, 2; (B) 23 November 1896; (C) B.Arch.(L'pool); Dip.T.P. (Manchester), F.R.I.B.A., M.T.P.I.; (D) Official Architecture 21 years; Private Practice, 11 years; (E) *Official:* All types of Local Government Buildings, Schools and Housing, Maintenance of Buildings, Administration of Building Bye-Laws, Town Planning; *Private:* Banks, Commercial Buildings, Industrial Buildings, etc.; (F) Member of R.I.B.A. Council, 1947-51; Chairman of Salaried and Official Architects' Committee; Member of Committee on Present and Future of Private Architectural Practice, and of Sub-Committee to implement recommendations of that Committee; Member of *Ad Hoc* Committee on Architectural Education; President of City and Borough Architects' Society; Fellow of Manchester Society of Architects and Member of Council; Fellow of Liverpool Architectural Society; and ex-Member of its Council and various Committees; (G) Army: 1915-20, Captain and Adjutant; 1942-45, Major, War Office Staff.

Jackson: Herbert. Nominated by the Council under Bye-law 34. (A) Jackson & Edmonds, 65 New Street, Birmingham; (B) 1909; (C) F.R.I.B.A., A.M.T.P.I., R.I.B.A. Bronze Medallist, 1928; Saxon Snell Prizeman, 1931; Joint Author of South Wales Plan, West Midlands and North Staffs. Plans (with Dr. Alwyn Lloyd and Professor Sir Patrick Abercrombie); (D) Private Practice; (E) Civic, Industrial and Commercial, Schools and Town Planning; (F) Formerly Hon. Secretary and Vice-President, Birmingham and Five Counties Architectural Association; Formerly member of R.I.B.A. Practice Committee and Town and Country Planning Committee.

Loweth: Sidney Harold. Nominated by Alfred C. Bossom, Cecil Burns, A. G. Chant, J. H. Forshaw, Sir Lancelot Keay, A. B. Knapp-Fisher, Sydney Tatchell, *Fellows*. (A) County Architect, Springfield, Maidstone, Kent; (B) 10 October 1893; (C) F.R.I.B.A., F.S.A., Silver Medallist and Prize-winner, Royal Academy Schools, London, Honorary Correspondent Member of the Institute of Architects of Brazil, Member of the Franco-British Union of Architects; numerous articles in English and foreign journals, also papers on school architecture and public

work generally; (D) County Architect, Kent County Council; previously Deputy County Architect and member of London County Council staff; (E) every form of Local Government building; (F) Member of the following R.I.B.A. Committees: Official Architects; Salaried Members; Unification; Science Standing; R.I.B.A. Representative on British Standards; Past Vice-President S.E.S.A., Chairman of Tunbridge Wells Chapter and Chairman of S.E.S.A. Education Committee; Member of Board of Examiners for 12 years for Surrey, Middlesex and Kent; Member of the Executive of the County Architects' Society; Member of the Worshipful Company of Masons and Liveryman and Freeman of the City of London; (G) served in R.E.'s 1914-18 War; Deputy Controller, Civil Defence, 1939-45 War.

Mathews: Edmund Douglas Jefferiss. Nominated by the Council under Bye-law 34. (A) 3 Ebury Street, London, S.W.1 ; (B) 10 July 1907; (C) O.B.E., F.R.I.B.A., A.R.I.C.S.; (D) Private Practice; (E) General, particularly Industrial and Hospitals; (F) Public Relations Committee since 1946; Hon. Sec. 1949-50, Vice-Chairman 1951; R.I.B.A. Registration Committee 1947-51, Chairman 1951; Chairman A.R.C.U.K. 1951; Discipline Committee A.R.C.U.K. 1949-51; (G) Army (T.A.R.O.) R.E.; 1939-45 Lieut.-Col.

Milburn: Stanley Wayman. Nominated by the Council under Bye-law 34. (A) 9 The Esplanade, Sunderland; (B) 28 June 1887; (C) M.B.E., M.C., T.D., F.R.I.B.A.; (D) Private Practice; (E) Hospitals, Schools, Factories, Civic and Commercial Buildings; (F) President Northern Architectural Association 1945-46; Member of R.I.B.A. Council 1946-51; Member of R.I.B.A. Competitions Committee; Member Special Committee to consider Future of Private Architectural Practice; Member Council A.R.C.U.K.; (G) Territorial Army and Territorial Army Reserve 1911-51; served in Royal Artillery 1914-18 and 1939-44.

Pierce: Stephen Rowland. Nominated by A. R. F. Anderson, G. R. Dawbarn, R. E. Enthoven, W. R. F. Fisher, Arthur W. Kenyon, Howard Robertson, W. V. Trubshawe, *Fellows*. (A) 14 Chepstow Place, London, W.2; (B) 1896; (C) F.R.I.B.A., Dist. T.P., Rome Scholar in Architecture 1921. *Planning* by E. and O. E. (Joint Author) and regular articles to professional press, etc.; (D) Private Practice; (E) Municipal buildings, Banks, Housing, Town Planning, Shops and Stores, etc.; (F) Past member of Council and Hon. Librarian A.A., Past Member of R.I.B.A. Prizes and Studentships and Schools Committees, Member of Board of Architectural Education of R.I.B.A. and A.R.C.U.K.; Member of Town and Country Planning and Housing Committee, R.I.B.A. and Past Hon. Secretary; Member of R.I.B.A. Dist. in T.P. Award Committee, Chairman of Library Committee, R.I.B.A.; Member of Faculty of Architecture—British School at Rome; Member of Board of Governors (representing A.A.) of Hammersmith School of Arts and Crafts; (G) 1939-45 War—Ministries of Works and Supply.

Saxon: Frederick Charles. Nominated by the Council under Bye-law 34. (A) 2 Stanley Street, Chester; (B) 18 April 1893; (C) Lever Prize (Liverpool) Civic Design 1919; F.R.I.B.A., F.R.I.C.S., J.P. (City of Chester); (D) Private Practice; (E) Hospitals, general, mental, W.D., and orthopaedic; Schools, Colleges and Technical; Industrial, Factories and Commercial; Temp. Hostels, etc.; (F) Member of Council 1949-51, as President of Liverpool Architectural Society; newly-elected representative of R.I.B.A. on Liverpool University Court, Member of *Ad Hoc* Committee on Architectural Education, 1951; (G) August 1914-May 1919: Commissioned Army Service in Middle East and France; Royal Engineers Field Coy., 1914-15 Star; Military Cross, two Mentions; May 1940-45, Home Guard; Lieut.-Col. commanding 6th Cheshire Battalion. Public service: Ministry of Pensions, Chairman Chester, Runcorn, Northwich and District War Pensions Committee; British Legion, President for several years of City of Chester Branch.

Scott: Thomas Edward. Nominated by the Council under Bye-law 34. (A) 2 Verulam Buildings, Gray's Inn, London, W.C.1; (B) 28 March 1895; (C) C.B.E., F.R.I.B.A., R.I.B.A. Athens Bursary, Certificate of Hon. Mention Soane Medallion; Publications on Technical College Buildings, Education and A.R.P.; (D) (*a*) Private Practice; (*b*) Head of Department of Architecture, Northern Polytechnic; (E) Technical College Buildings and general, Consulting Architect to the Canadian Government; (F) Member of Council, 1935-36; Chairman, Demobilization Committee; Chairman, Science Committee; Vice-Chairman, Board of Architectural Education, and Member of Schools, Prizes and Examinations Committees; Intermediate and Final Examiner; Chairman, War Emergency Panel; Chairman, Examinations Concessions Committee; Salaried Members' Committee; Chairman, A.R.P. Committee; Member of *Ad Hoc* Committee on Architectural Education; (G) 1915-19 Australian Field Artillery; 1941-44 Home Guard; Chairman of various Home Office Committees on A.R.P.; Chairman of Architecture and Public Utilities Advisory Committee to Ministry of Labour.

Steele: Frank Reginald. Nominated by the Council under Bye-law 34. (A) County Architect, County Hall, Chichester; (B) 6th July 1905; (C) F.R.I.B.A., R.I.B.A.Dist.T.P., F.R.I.C.S., M.T.P.I.; (D) 7 years' private experience, followed by 21 years' official experience in Wolverhampton, Huddersfield, Bristol, Exeter and West Sussex. Previously City Architect of Exeter. Present position: County Architect of West Sussex; (E) Schools, Housing, Health and Public Buildings; (F) Member of Council of South-Eastern Society of Architects, Vice-Chairman of Brighton Chapter of S.E. Society of Architects, Hon. Sec. of the County Architects' Society; (G) Civil Defence.

Swarbrick: John. Nominated by Professor Hector O. Corfiato, Sir Banister Fletcher, J. H. R. Freeborn, Professor A. E. Richardson, Oliver Law, *Fellows*; F. Keith Aitken, *Associate*; Adie Bamford, Herbert G. Tilley, *Licentiates*. (A) 3 King's Bench Walk, Temple, E.C.4; (B) 22 May 1879; (C) F.R.I.B.A., F.S.A., A.A. Silver Medallist 1903, R.A. Silver Medallist 1904, Publications: *Robert Adam, Easements of Light*, etc., Editor of the *National Ancient Monuments Review*; (D) Private and Official: (E) Churches, Schools, Business and Domestic premises; (F) R.I.B.A. Council 1939-49, R.I.B.A. Architectural Science Board, Practice Committee, Professional Text and Reference Books Committee, Hon. Secretary of Manchester Society of Architects for eleven years ; (G) Emergency Works Officer (M.O.W.), Chief Technical Officer (Board of Trade), Officer of Codes of Practice Council (D.S.I.R.).

Thorpe: Albert Newton. Nominated by the Council under Bye-law 34. (A) 66, Severus Avenue, Acomb, York; (B) 11 November 1900; (C) F.R.I.B.A., Pugin Student 1923; (D) 1926–1935, Chief Assistant with Private Practising Architects. Since 1935, Official appointment; (E) Prior to 1935. Churches, Banks, Libraries, Domestic work, etc. Since 1935, Industrial, Domestic and Commercial Railway Buildings; (F) R.I.B.A. Council 1948–51. Member of Council of York and East Yorkshire Architectural Society for 25 years, and President 1949–51; (G) Military Service in Infantry 1918. Commission in Home Guard 1940–45.

Waters: Alwyn Brunow. Nominated by the Council under Bye-law 34. (A) 103, Old Brompton Road, S.W.7; (B) 18 September 1906; (C) M.B.E., G.M., F.R.I.B.A. Author of *The Story of a House* and various papers and articles. Member of the Governing Body of Willesden Technical College; (D) Private Practice and Technical Education; (E) Schools, Commercial and Industrial. Housing, Church work, Boys' Clubs and Hostels, Joint Consulting Architect to the National Association of Boys' Clubs. Principal, The Ellis School of Building; (F) Council of the Bucks., Berks. and Oxon. Architectural Association. Vice-Chairman of the Bucks. Society of Architects. Prizes and Scholarships Committee of Board of Architectural Education. R.I.B.A. Public Relations Committee; (G) October 1940—December 1945. Major R. E. (Bomb Disposal). Wounded Normandy June 1944. M.B.E. (Mil.) 1943. G.M. 1944.

Yorke: Francis Reginald Stevens. Nominated by the Council under Bye-law 34. (A) 2, Hyde Park Place, London, W.2; (B) 3 December 1906; (C) F.R.I.B.A.; (D) Private practice; (E) General; (F) Council 1944–50. Executive 1944–50. Served on Finance and House, Housing, Practice, Junior Organisation.

AS ASSOCIATE MEMBERS OF THE COUNCIL

Cadbury-Brown: Henry Thomas. Nominated by the Council under Bye-law 34. (A) 17, Clarges Street, W.1; (B) 20 May 1913; (C) A.R.I.B.A., A.A.Dip. (Hons.); (D) Private Practice; (E) General, Domestic, Housing and Commercial; (F) R.I.B.A. Public Relations Committee. Town and Country Planning and Housing Committee. International Union of Architects; (G) Royal Artillery 1939–45.

Curtis: Frederick Francis Charles. Nominated by the Council under Bye-law 34. (A) 222, Marylebone Road, London, N.W.1; (B) 9 August 1903; (C) Dr. Ing., A.R.I.B.A.; (D) Private until 1946. Official since; (E) Domestic, industrial, educational, welfare, transport; (F) Salaried and official Architects' Committee. Competitions Committee; (G) Service in Royal Engineers 1942–45.

Cusdin: Sidney Edward Thomas. Nominated by the Council under Bye-law 34. (A) 53 Bedford Square, London, W.C.1; (B) 28 July 1908; (C) O.B.E., A.R.I.B.A., A.A.Dipl.; (D) Private; (E) General and Hospitals; (F) Junior Members' Committee, 1938–40. Public Relations Committee, 1950–51. R.I.B.A. Council, 1950–51. Council A.A., 1937–40. 1946–51; (G) R.A.F., 1940–46.

Gleave: Joseph Lea. Nominated by the Council under Bye-law 34. (A) 196 West Regent Street, Glasgow; (B) 5 August 1907; (C) M.A. (*honoris causa*) Manchester. A.R.I.B.A., M.T.P.I.; (D) Architect of Columbus Memorial for the 21 American Republics, now being erected. (International

Competition, 1931). Head of School of Architecture, Edinburgh, 1935–47; (E) Now partner John Keppie, Henderson and J. L. Gleave, carrying out Schools, Hospitals, University Buildings, Churches, Houses, Factories, etc.; F.R.I.B.A. Council, Board of Architectural Education, Schools Committee, 'Ad Hoc' Committee on Architectural Education, R.I.A.S. Council and Committee; (G) Army, 1939–45. Now Lieut.-Col. R.A.R.O.

Moore: Brig. Harold Edward. Nominated by the Council under Bye-law 34. (A) 9 New Square, Lincoln's Inn, London, W.C.; (B) 11 February 1888; (C) A.R.I.B.A., D.S.O., M.C.; (D) Official. War Department; (E) Private practice since retirement from Army 1945. Housing; (G) 31 years Commissioned Service Royal Engineers including following appointments:—C.R.E. 48 Div. B.E.F., Chief Engineer 9 Corps., Chief Engineer Northern Ireland, D.D. Eng. Stores War Office, Member of Council Institution of Royal Engineers, 1936–38. Recently: Military adviser to Ceylon Government for new Army Barracks.

Tubbs: Ralph. Nominated by the Council under Bye-law 34. (A) 35 Welbeck Street, London, W.1; (B) 9 January 1912; (C) A.R.I.B.A., *Living in Cities* and *The Englishman Builds*, published by 'Penguin Books'; (D) Private Practice; (E) Hostels, Domestic. Architect of Dome of Discovery—Festival of Britain; F.R.I.B.A. Council and Executive Committee, 1944–50. Vice-President of the Architectural Association, 1945–47.

Womersley: John Lewis. Nominated by Paul J. J. Panter, Walter Rosser, *Fellows*; Edward William Cowell, Harold Williams, *Associates*; Thomas Edward Jeffery, P. G. Copson, Frederick Carter John Smith, *Licentiates*. (A) Guildhall, Northampton; (B) 12 December 1910; (C) A.R.I.B.A., A.M.T.P.I., Nicholson Travelling Scholarship (West Yorks. S.A.), 1933; 2nd Premium Fylde Water Board Offices (with Mr. J. M. Gornall), 1939; Ministry of Health Housing Medal, 1950; Winner BUILDER Low-Cost Housing Competition (with Mr. G. Hopkinson), 1951; (D) 14 years Private Offices London and Provinces. Five years Borough Architect and Town Planning Officer, Northampton County Borough; (E) Private practice; Housing, Hospitals, Churches, Commercial. Official practice :—Housing, Schools, Town Planning; (F) Liverpool Architectural Society, various Committees, 1944–46. Northants., Beds. and Hunts. Association of Architects' Council, 1947–51. City and Borough Architects' Society, Executive Committee, 1948–51; (G) In charge of lay-out and erection of British and U.S.A. Army Camps.

AS LICENTIATE MEMBERS OF COUNCIL

Gomme: Lewis James Fremen. Nominated by the Council under Bye-law 34. (A) Wingate Way, Trumpington, Cambs.; (B) 24 May 1894; (C) L.R.I.B.A., Member of American Institute of Architects (1922). *The English Church* and contributions to technical journals; (D) Official and private; (E) Commercial, industrial, ecclesiastical, collegiate, domestic, hospital, town planning; (F) R.I.B.A. Council, 1949–50 (representing Essex, Cambridge, and Hertfordshire Society of Architects), Member of Professional Conduct Committee, Member of Committee on M.O.H. Housing Awards. Past President of the Essex, Cambridge and Hertfordshire Society of Architects; (G) Served with 2/XIth London Regt., 1914–18.

Goodman: Stanley Vincent. Nominated by the Council under Bye-law 34. (A) Holly Lodge, 43 The Grove, Bedford; (B) 5 December 1894; (C) L.R.I.B.A.; (D) County Architect, Bedfordshire; (E) New Schools, Court Houses, Police Stations, Fire Stations, Health Centres, Libraries, Housing, Restoration of Ancient Buildings; F.R.I.B.A. Council, 1949–50, as representative of Northants., Beds. and Hunts. Association of Architects. 30 years member and Past President of Allied Society; (G) Served B.E.F., 1916–19, France. Held Commission T.A.R.O. Rank, Major. Served Home Guard, 1940–45 War (Rank, Captain).

Grundy: Percy Herbert. Nominated by the Council under Bye-law 34. (A) 1 Museum Square, Leicester; (B) 4 July 1892; (C) L.R.I.B.A.; (D) Private Practice; (E) Churches, Schools, Housing, and large experience of Factory design; F.R.I.B.A. Council, 1947–49. President, Leicester and Leicestershire Society of Architects, 1947–49. Representative, R.I.B.A. Allied Societies' Conference, 1950–51; (G) N.C.O. Infantry and Royal Engineers, 1916–19.

Attendances at Council Meetings (Session 1950-51)

(UNLESS OTHERWISE STATED MEMBERS' ADDRESSES ARE IN LONDON)

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Representatives of Societies in Alliance with the Royal Institute Overseas: A. J. Hazelgrove [*F*] (The Royal Architectural Institute of Canada), 0; L. Sylvester Sullivan [*F*] (Representative in the United Kingdom), 5; J. D. Cheesman [*F*] (The Royal Australian Institute of Architects), 0; T. Cecil Howitt [*F*] (Representative in the United Kingdom), 9; R. S. De R. Harman [*A*] (The New Zealand Institute of Architects), 0; (*To be appointed*) (Representative in the United Kingdom), 0; Lieut.-Col. C. Erik Todd [*A*] (The Institute of South African Architects), 0; Michael T. Waterhouse [*F*] (Representative in the United Kingdom), 4; †Walter S. George [*F*] (The Indian Institute of Architects), 0; †Stuart Bentley [*F*] (Representative in the United Kingdom), 3.

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Marked thus:

*Were appointed at or after the first meeting of the Council. Possible attendances, 9.

†Were appointed after the fourth meeting of the Council. Possible attendances, 6.

‡Appointed as Chairman of the R.I.B.A. Registration Committee after the third meeting of the Council, and retired after the eighth meeting. Possible attendances, 5.

¶Appointed after the eighth meeting of the Council. Possible attendances, 2.

§Deceased 22/3/51. Possible attendances, 8.

‖Appointed after the ninth meeting of the Council. Possible attendances, 1.

A view in the Mountains of Mourne typical of the scenery of Northern Ireland

Some Buildings in Northern Ireland

Below: The Courthouse, Armagh, was designed by Francis Johnston in 1810.

Above: Mountstewart House, the home of the great Lord Castlereagh and of the present Marquess of Londonderry. Built in the 18th century by an unknown architect

The Sir William Whitla Hall, the Queen's University, Belfast, awarded the R.I.B.A. Architecture Bronze Medal in the area of the R.S.U.A. for the period of 13 years ending 31 December 1950. Architect, John MacGeagh [*A*]; consulting architect, Edward Maufe, R.A. [*F*]

Above: The Headquarters of the Royal Society of Ulster Architects are in Old Museum Buildings, which was built in 1830 by the Belfast Natural History and Philosophical Society, who are still the owners. The architects were Duff and Jackson. Conference Headquarters is situated here. Top right: Ballygally Castle, built in 1625 by James Shaw of Greenock, is an interesting example of Scottish baronial

Carrickfergus Castle was begun about 1200 and besieged by King John in 1210 and Edward Bruce (brother of Robert Bruce) in 1315. In 1690 William of Orange landed there. The great keep is 90 ft. high

Lighting of Buildings

By W. A. Allen, B.Arch. [*A*], and R. G. Hopkinson, Ph.D., M.I.E.E., F.I.E.S.

Read at a joint meeting arranged between the Illuminating Engineering Society and the R.I.B.A. Architectural Science Board, 13 March 1951

L. P. Rees [*A*], Chairman of the Architectural Science Board, in the Chair

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Part II.

The Principles Applied. There is a saying about there being nothing new in the world, and in reality there is nothing fundamentally new in the principles we have tried to identify. There has been good lighting in the past, and, if we are right as to what constitutes good lighting, the principles will be found demonstrated in examples from the past. What is new, of course, about modern applied science, and differentiates it from traditional development, is the conscious application of the principles, and the greater power with which they can be used through being more thoroughly understood. There is then flexibility too, but there is no guarantee of application with the right balance; that must remain to a large extent in the judgment of the designer, and is vital to success. Traditional design often reached good balance, and this was a great technical merit. In order to illustrate the application of the ideas discussed in this paper, some examples will be taken from both modern and traditional design.

Windows. Traditions were better developed in natural than in artificial lighting, for obvious reasons, and perhaps the best daylighting device to take is the Georgian window, because it was the latest to become established before the Victorian interruption of traditional development. There were naturally many variations in the quality of window design even in such a strong tradition as the Georgian, but by common consent windows such as the one in Fig. 1 are accepted as among the best. They are, of course, æsthetically charming, but we are considering technical features. It is hard to say which of these is the more important, but let us note first that being a vertical slit in a thick wall, the window has a deep cut-off so that people in a Georgian room could easily avoid excessive views of sky. The rooms may not have been lit to high levels, but one's eyes could adapt readily to make the most of it, and there was little discomfort unless one actually faced the window wall.

However, the most remarkable feature of the good Georgian window was not the shape of the opening, but the subtle and powerful use of the principle of contrast grading, which is demonstrated in several ways. The window bars are tapered and free from shadows, so that contrasts are reduced across the view of sky. Then there is the grading in the reveal, using the white-painted external surface and the inner splay, providing two steps between the bright view of sky and the dark inner face of the wall. This is perhaps the most striking feature of the development. The white external reveal is probably often taken to be a purely æsthetic device, but any who doubt its part in the success of the window as a light source should consider the windows to be seen in some old London low-cost flats, which show the technique persisting to this day by white-washing dirty brickwork reveals which would otherwise give rise to vigorous contrasts.

The high lintel and low sill also play important parts in two ways, one well recognized, and the other more subtle. The first is by assisting the penetration of light; the high lintel admits the direct light deeply on to the working plane, and the low sill does the same for light reflected from the floor on to the ceiling. They are probably equally valuable, though the high lintel is always given more prominence than the low sill. The more subtle effect of these two features is to reduce contrasts around the opening in two ways; one by reducing the area in full shadow below sill and above lintel, and the other by providing strong pools of light on floor and ceiling which act as secondary sources to relieve all the shadows in these regions.

These, as we see it now, are features we would expect to be necessary for a good solution of a light source which is a hole in a wall; contrast grading to relieve contrasts, and light distributed so as to illumine shadows. Also, of course, the use of light colours to contribute to the success of both factors. It is interesting to compare the window of Fig. 2 with that of Fig. 1; it is an equally elegant shape, but has dark wood in place of white paint, with a dark floor in the room, a high vaulted ceiling, and the room so deep and so darkly decorated that little light returns to the window wall to relieve shadows.

Much of modern window design is finding its way slowly towards sound practice. One of the successful innovations undoubtedly is the use of windows from wall to wall in a room, which avoids contrasting shadows at the ends. Sometimes less successful is the window wall which, by presenting a large apparent size, causes discomfort which goes part way to offset

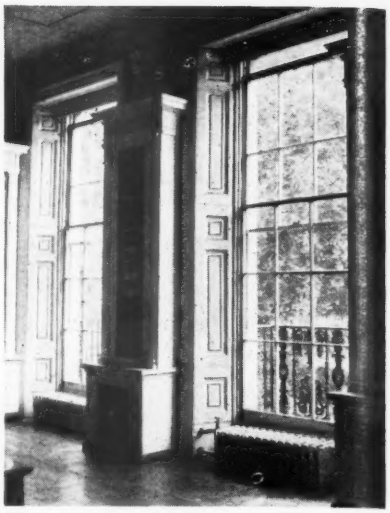


Fig. 1: A good Georgian window, with deep cut-off, contrast grading across the reveal, high lintel and low sill, and tapered window bars. (Architectural Association)

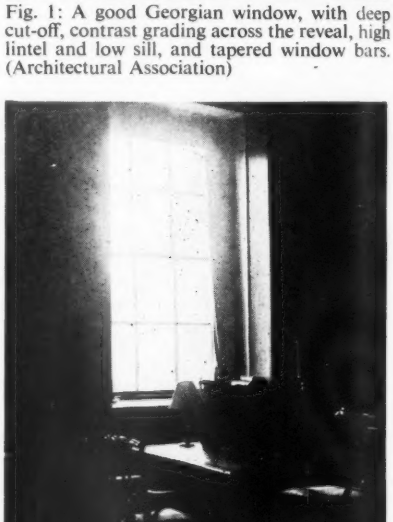


Fig. 2: Georgian window of good design, but with dark surrounds and bad contrasts

the improvements resulting from having no frame of contrasts around the edges. Fortunately it does not offset them entirely, for studies of post-war classrooms in schools, where window walls are frequent, indicate that teachers find these rooms appreciably better than orthodox pre-war designs.

Nevertheless the search for a modified window wall goes forward, showing instinctive sensitivity of designers to causes of discomfort. Tinted glass, special glass of other kinds, louvre blinds, and net curtains all function by contributing to reduce the intensity from the sky or to reduce contrast, or both. Often a simple reduction of area may be sufficient, and some of the recent Hertfordshire schools have an interesting window treatment as shown in

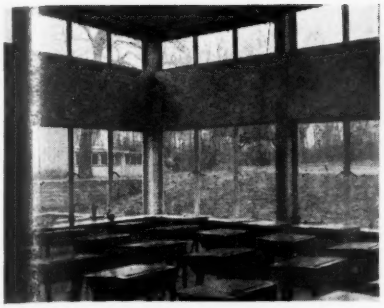


Fig. 3: Interior of a classroom, showing low contrasts due to cross-lighting. (Hertfordshire C.C.)

Fig. 3, where the place of a window wall is taken by a view-window and a clerestory, with a panel between which reduces the area of sky seen in that view, while adjacent clerestories light the panel to increase its brightness so that contrasts are minimized. Now the lower ceilings of classrooms, necessary for economy, are forcing another approach, using top lights and long horizontal view windows, and this has a chance to prove very successful.

One remarkable point about the design of these schools is the way in which windows and top lights are placed in relation to coloured surfaces so that the latter present themselves as they were intended to do. Much modern colour work is done without the realization that light will play a part in the picture formed for the viewer; light and colour go together in one concept of design.

Another interesting example from a Middlesex school uses a louvred top-light together with a view-window. (Fig. 4.)

The purpose of this group of examples is to show simply that there is a thread of consistent ideas running through the best of traditional design and struggling to display itself in contemporary windows, and that the group of ideas is in fact our stated group of principles. Contrast grading, the size of the visible patch of sky, and the relation of lighting to the brightness of surfaces; all these are evidently factors of importance. When windows are holes in walls, contrast grading and a limited view of sky are desirable; when walls are wholly windows, contrasts are minimized but brightness and intensity may be excessive. The view-window has its value; but the large window framed on all sides by dark surrounding wall areas can be one of the worst possible combinations.

Examples from Factory Lighting. Factories are interesting because they present a great variety of problems in the lighting of the work. High-grade treatments are usually desirable and often essential, and the skill of the designer is tested to the extreme. Brightness relations must be right for comfort, phototropism and stimulation; there are practical problems of dirt to overcome; colour may be needed for proper brightness relations and to improve working conditions. All these factors call for a good

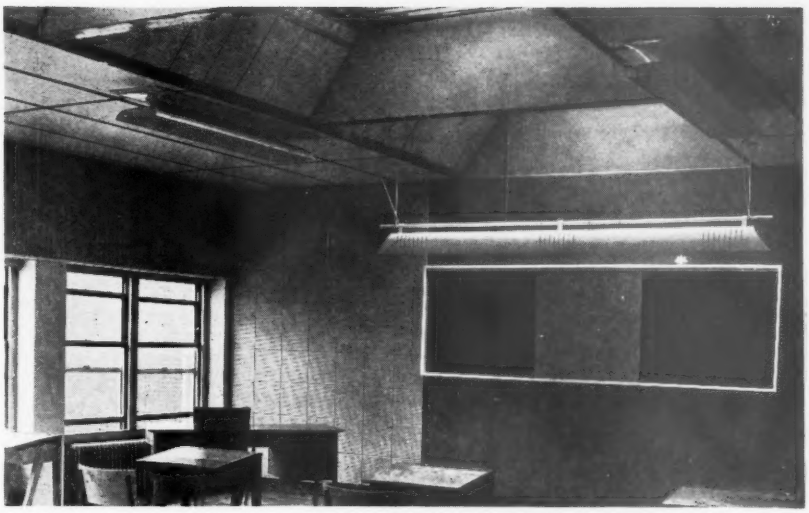


Fig. 4: A classroom with low ceiling, using louvred top-lights and vision-strip windows. (Middlesex C.C.)

understanding of their mutual problems by the architect, factory management and lighting designer. Recently the Building Research Station was given an opportunity by Hervey Rhodes, M.P., to treat a woollen weaving shed of his comprehensively in terms of colour, lighting, and noise reduction, and this case provides a useful example to illustrate some of these points.

As far as brightness on the work is concerned, cloth may be woven in any colour or reflection factor, but surrounding parts of the view obviously can not be set out so as to satisfy the principles for the darkest cloths. In any case the cloth is such a large part of the field of view that this factor is less critical than is sometimes the case. It was concluded that a reflection factor of 15 per cent for the machine colour would be about right for many cloths and would not be objectionable for the darkest weaves. The colour chosen was a greyed blue (Munsell ref. 10 B G 4/2). All possible parts of the machines were so painted in order to give the looms the appearance of a simple clean design and to ensure good visibility of inner parts, though an exception was made of one or two merely decorative items. The machines had a somewhat 'Edwardian' appearance and were lined out in gold in character with the decorative technique of that period, and the result was very satisfactory. It should be noted that pure hues should seldom be used on machines, while the choice of greyed hues will often be influenced by other colours existing or proposed.

It was felt that illumination by fluorescent sources alone would be too uniform to bring out to best advantage details of faults on the cloth, and also that it is often rather dull by itself. It was therefore decided to use some filament sources as well, mounted high in the ceiling. The mixture proved very successful, mostly because of the marked stimulation effect produced by the highlights and clear shadows on the looms. There seems to be a marked alertness induced in operatives by the effect, which should help in keeping the machines in production, and the weavers were of the opinion that it also kept them feeling more fresh on the night shift. We now hold the opinion at the Station that mixtures of fluorescent and filament sources are often desirable, especially where fluorescent is the main source, and in this connection the new filament lamp ballast for fluorescent sources can be made to serve a very useful purpose if its significance is properly appreciated.

It has proved to be generally undesirable to have high reflection factors on walls because they are so often backgrounds to views of work, which seldom has a high reflection factor. The main walls were therefore kept to moderate reflection factors. The wall nearest the looms, which is at a right angle to the north light roof, is a pure red (Munsell ref. 7.5 R 5/12, reflectance 20 per cent) which was felt to be desirably enlivening (bearing in mind again the night shift), and by making the shape of the walls very clear in relation to the asymmetrical roof the character of the building is attractively brought out. The opposite wall, near areas which are less frequently used, is a blue (Munsell ref. 10 B G 6/2) of 30 per cent reflection factor and serves the purpose of bringing out by contrast the full golden colour value of the wicker baskets kept in this area. When a strong colour such as that of the baskets exists in a building, the choice of other colours must be made in relation to it. It is not always the case that walls should be of such low reflectance and for the end wall which one sees when facing the north light a lighter colour (Munsell ref. 5 Y 8/2, reflectance 60 per cent) was used because the brightness of the view of sky made a dark colour unacceptable.

Moving to the upper regions of the building, the trestles and window bars are white, because these are both seen against

the view of sky. White or very pale colours are necessary in such positions to minimize contrasts. The ceiling was either a pale biscuit (the native colour of the sound absorbent) or a pale grey (Munsell ref. 2-5 Y 8/5, reflectance 60 per cent) and was so coloured to throw into high relief the white trusses, which thereby made their own contribution to the character of the building. A point which it is particularly desired to stress by this example is the way in which colour and illumination are intimately connected in modern practice, each being related in turn to visual requirements and to the character of the building.

The effectiveness of the roof colouring naturally depends on its being well illuminated, especially in the middle of the night, and to ensure this a fluorescent fitting was designed which let nearly as much light go upward as downward. It is important to note, however, that the light which was allowed to go upward was not lost, because the high reflection factor of the upper surfaces of the factory served to re-direct it on to the work and its environment. The other chief characteristics of the fitting were a low brightness as seen sideways, due to the use of suitable opal perspex, and an angle of cut-off rather steeper than usual (50° from the vertical). The fluorescent sources are giving 25 lumens per sq. ft. (foot candles) on the working plane. The louvres are pale blue and provide a touch of colour well related to the building. The filament sources were simple metal reflectors directing their whole flux downward within the narrow angle of 25° from the vertical, each source covering two looms. These provide only 10 lumens per sq. ft., but as mentioned earlier they profoundly improve the character of illumination. It seems to us at the moment to be fairly important, when mixing these two kinds of source, to screen at least one of them effectively so as to avoid conflicts of colour; the two lights can obviously blend well on the working plane, but the sources themselves do not always look well together. Fig. 5 illustrates this weaving shed, though little of its colourful character shows in black and white.

A simple example of the same idea used in reverse occurred at the Building Research Station itself, where the lighting of the carpenters' shop became a cause of complaint. It was decided to see what could be done by using exactly the same wattage in a new solution. The appearance before and after treatment is shown in Figs. 6 and 7, and one of the chief elements in it was simply to take the six existing fluorescent troughs and put them upside down in the trusses so that the light was directed on to the ceiling. This reduced the illumination level on the working plane but greatly improved the lighting.

In this same shop occurred an excellent example of another point of principle. The planer (Fig. 8) displayed on the main table a strong specular reflection of one of the filament units, and it forcibly drew one's attention away from the work point, which was highly undesirable. Various treatments

Fig. 5: The weaving shed. Note low contrasts in the ceiling area. The machines are grey-blue; the end wall red; the trusses white and the ceiling 'biscuit'

were considered, but the simplest and best seemed likely to be simply to remove the source so that the reflection came on the work point itself, as in Fig. 9. It appears to have succeeded. This solution is hardly orthodox and perhaps seldom wise, but it illustrates the variety of ways in which one may have to use light sources to get good lighting, and many examples could be found. In our view local lighting of work is one of the fields of lighting most widely open to improvement, and sparkle, clarity and preferential brightness seem to be the vital points to go for.

One has to think in much the same way about daylighting, which is crudely treated in most factories. Consider the instance of a machine lit by a north-light roof, so that one side is in dense shadow. This kind of thing has made Americans sceptical about north-lighting, and caused us at the Research Station to devise a roof-light which is either an asymmetrical monitor, or north-light roof with supplementary south-light, whichever you wish to call it (Fig. 12). It provides the cross-lighting which is so desirable and it admits a little sunshine (which is also often wanted now). We do not go so far with cross-lighting as to support the use of dispersed panels of glass, which often give unpleasant contrast.

We must not pass beyond this stage without referring to the valuable work of H. C. Weston on the analysis of the visual task, as he describes it in his book *Sight, Light* and *Efficiency*, for this makes one deeply sensitive to visual requirements relating to work. Equally we must record our appreciation of the work of our colleague, H. L. Gloag [*A*], who has been responsible for clarification of the principles which govern the colour treatment of buildings in relation to their lighting requirements, and designed the mill treatment described. Factories, of course, present so many difficult visual problems that one could easily slip into the view that other building types are less exacting; our last example, therefore, will come from a very different type of building—an art gallery.

An Example from the Study of Art Galleries.—Galleries have recently had intensive study at the Building Research Station. They present a problem of refined standards of illumination because the contents are visual displays, and there have been papers, books and articles on the subject at frequent intervals for over a century. The odd and depressing fact has to be recorded that very few of the galleries built so far have enjoyed freedom from valid criticism. This makes us cautious in claiming any advances, but it is believed at the Station that the modern researches in illumination and vision which have given such a useful lead in tackling factory problems give an equal advantage in facing those of all other types of building.

Broadly speaking, three types of top-lit gallery have been used by architects; one where there is a vault with a roof light along the crown; one where there are divided openings for lights; and a third which consists of clerestories opposite one another. The latter can be left out of our discussion because of the glare which faces

Fig. 6: Carpenters' shop showing glare due to inadequate ceiling light

Fig. 7: The shop of Fig. 6 with contrasts reduced by inverting troughs

anyone who looks towards a picture wall, but the others are worth attention.

The great vaulted galleries have almost all suffered from the disadvantage that the upper parts of the walls received far more light than the picture areas farther down. This no doubt happened because the principle of lighting the object of attention was not clearly established, and even if it had been well known, no methods of predicting daylight distribution existed until relatively recently. It is possible to do a vault design with a good distribution, but only by accident or when the control of distribution is understood.

There is a second fault with the exposed skylights used in vaults, for visitors are generally adapted to relatively low brightness levels and find the intensity of light from the large view of sky too great for comfort. This was evident very quickly to at least one critic, F. P. Cockerell, who gave evidence before the Select Committee of 1850 on the National Gallery. At that time it was still new, yet Cockerell put forward a design with a central ceiling to screen the sky. What is still more to his credit, he realized that if opaque it might seem too dark, so he proposed a translucent screen. His design was not built.

However, either his ideas bore fruit, or subsequent designers realized the same point, for a number of galleries were built along similar lines. Unfortunately they used opaque ceilings, and not only suffered from having too much light on the upper parts of walls, but had bad shadows on the floor and harsh contrasts above. Once these points were appreciated in terms of modern research, a much more direct attack could be made upon design, and the Research Station has taken advantage of requests for help by putting forward designs which incorporated the modern views on illumination. One of these, shown in Figs. 10 and 11, was prepared for the Birmingham civic authorities and is to form the basis for reconstruction of some of their war-damaged rooms.

The essential features are these. From the centre of the picture zone a full view of sky is ensured, while the 'knee' which takes the place of the usual cornice reduces the light reaching the walls above the pictures; the distribution curve is on the last of the development sketches in the Fig. 10, and shows that the largest daylight factors are now on the picture zone. The underside of the 'knee' is at a sufficient slope to receive some direct light from the sky, and it also has reasonable reflected light from other surfaces. It is important to avoid full shadows anywhere in this region. Screening of the view of sky is by a 'velarium' which is to be an egg-crate, and one louvre is introduced on each side to screen the view of sky between the velarium and the edge of the roof-light.

These are the chief structural features in design, and they serve to avoid glare-discomfort from the skylight and to ensure a suitable distribution on the walls and across the floor. They do not, however, ensure the correct brightness distribution, for that depends not only on the distribution of light but also on the reflection factors of walls.

The pictures are the objects of attention and they should therefore be at least as bright as their immediate surroundings. Since they receive the same illumination, it follows that the wall surface should be of about the same reflection factor. Rather unexpectedly, a study of reflection factors of pictures showed that the great majority have average overall reflection factors of between 15 and 25 per cent., and with this information it was decided to try wall coverings with reflection factors of about 20 per cent.

At this level reds, greens and blues are the colours which occur in purity. Blue was discarded as being too disturbing when seen in the peripheral field of view, and reds and greens, two of the traditional colours, remain. Of these, green has often been used for portraits and red for other types of subjects, and this tradition seems sound. In our model trials we used red only, and independently and to our surprise chose a red pattern almost identical with the reds in a room at the National Gallery, which has long had a good reputation for picture display. This, then, seems another instance where a long tradition can be shown to accord with an approach from basic principles.

Naturally there is a tendency to use lighter colours today, but evidence suggests that this is often done to avoid undesirable contrasts with the views of sky and to improve the distribution of reflected light. On the other hand, there seems no doubt that colours with reflection factors of 20-30 per cent. provide better backgrounds for furniture, pictures and human beings than the higher values often used in recent years. It seems that with more skilful handling of daylight and artificial lighting we will be able to work downward again

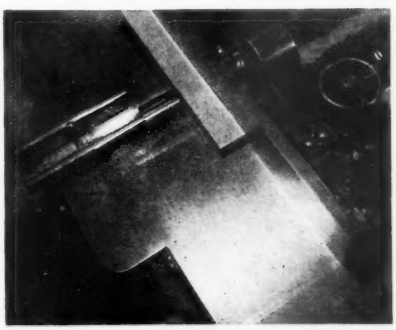


Fig. 8: Planer, showing how the eyes are attracted to a bright spot in the wrong place

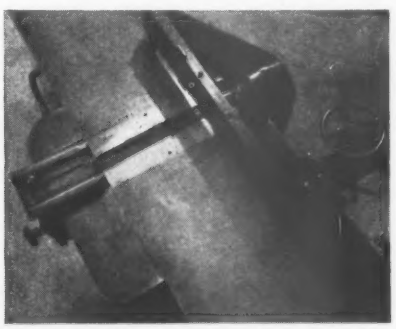


Fig. 9: The planer of Fig. 8, with the reflection of the light moved to the work-point

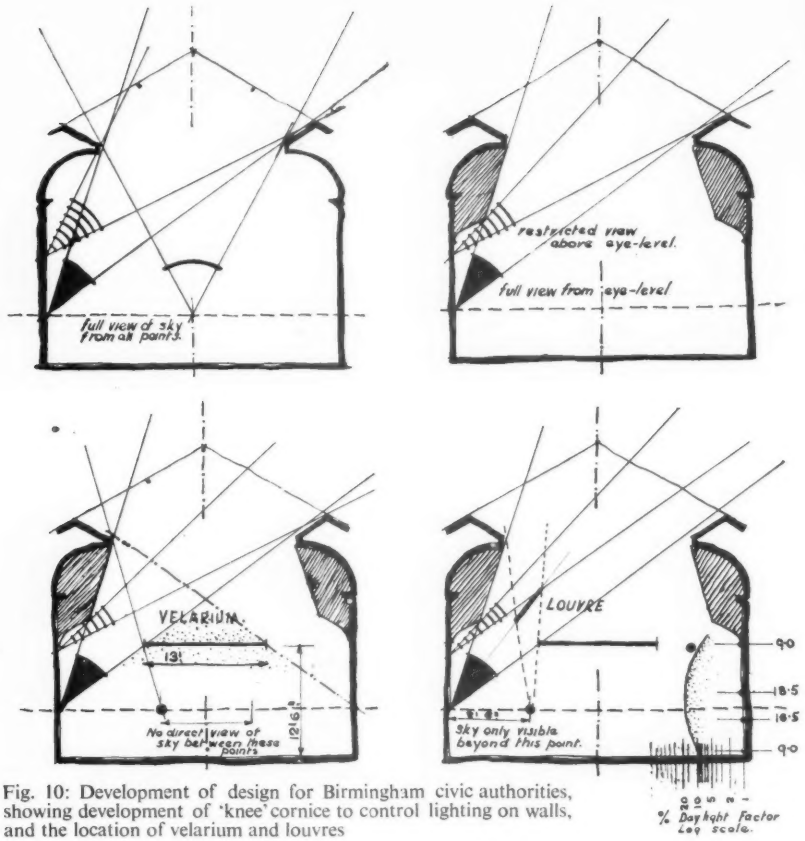


Fig. 10: Development of design for Birmingham civic authorities, showing development of 'knee' cornice to control lighting on walls, and the location of velarium and louvres

safely to the lower value backgrounds, which have served so well in the past.

Reflection factors of the lower and upper surfaces of the knee which replaces the cornice were adjusted in the model studies so that they compensated for the respectively lower and higher amounts of light reaching them. Had the roof-light been exposed, contrast grading towards it would have been necessary, but the screening of it removed the need and all surfaces in view were therefore brought to about the same brightness as that of the picture wall.

Lighting engineers will appreciate that the basis of this treatment is the provision of correct adaptation conditions with attention to the *luminosity* (i.e., the apparent brightness) of the pictures, rather than to their *luminance* (physical brightness).

This is a very brief account of the main points of a design in which an attempt has been made to utilize fully the views on lighting and colour which have resulted from recent studies. The design is due to John Bickerdike [*A*] of the Building Research Station.

The Future.—Architectural design is not always regarded as having a part in the grand strategy of experimental studies, but quite clearly it is the full-scale testing ground of ideas. Perhaps it is more than that, for the critical study of architecture past or present is a means of identifying problems requiring laboratory study. Contrast grading and the discomfort effects of large windows are two problems where a critical approach to design has suggested fruitful lines for laboratory study, and so link up with the approach from a more fundamental standpoint.

Much study lies before us and we see a clear path ahead in experimental work, though it is a path always liable to become a maze as further research on vision and human psychology complicates our picture of how the eye and the mind work and co-ordinate their activities. Our path is the study of the brightness pattern in the field of view, and of those lighting factors which have the greatest influence on the well-being of the occupants of a building. Recent researches have given us more confidence than hitherto in the basis of our codes of practice on illumination levels, and there is enough information now available to codify the factors which govern glare, and, to a lesser extent, concentration of attention and general overall effectiveness.

Our greatest need is knowledge of those lighting factors which determine the long-term psychological states, the degree of well-being or of fatigue after a day's work, or a year's work in a given environment. We have endeavoured to make good this lack by assuming that the relation between the factors which govern long-term fatigue effects will be a derivative of that which governs short-term fatigue, and for this view we have the backing of leading psychologists. But it is recognized that experimental proof is necessary, and is essential to determine detailed and absolute values. A glare source which is found to be 'just acceptable' on a short-term study may give rise eventually to glare-fatigue if it is constantly in the field of view. The modification to the short-term comfort brightness of the source, that is, the 'factor of safety', can be determined only by experience or by direct experiment.

Long-term experiments are not easy to conduct. This is partly because observers free and willing to undergo the test are not readily available, partly because the experimental conditions can not be controlled over a long period, and partly because the design of the experiment must, if it is to carry conviction, be based on the cumbrous dictates of modern statistical procedure. (The architect often fails to appreciate how much time the experimenter must expend on obtaining a rigorous statistical proof of an effect which can often be clearly demonstrated and which the architect is prepared to accept on the basis of his observation, judgment and common-sense.) Some long-term experiments on lighting have been carried out, especially in other countries, and these have been of value; but in many cases they have been criticized because the variables were insufficiently under control, and also, it must be admitted, because of the human reluctance of independent observers to accept conclusions which so forcibly aid the commercial interests of the sponsors of the experiments.

Recently the Building Research Station has explored the possibility of using short-term physiological tests as a means of detecting conditions which in time would lead to long-term fatigue. Luckiesh, in the U.S.A., and others have attempted to correlate blink rates, heart-beat rates and nervous muscular tension with lighting factors, with a similar objective. A tempting line of study is exploration with electronic devices, like the electro-encephalogram, for recording the mass potentials which are generated between different parts of the brain when visual stimuli are presented. Informed opinion holds out little prospect at present of any useful correlation being established between such physiological factors and the long-term fatigue effects, but informed opinion is of course often conservative.

At the moment there remain the duller but relevant tasks of deriving a more complete technology for the engineering of the visual field than that which we have been able to describe in the paper. This task calls for co-operation between the various research groups who have interested themselves in it. Individual progress in parallel is expensive and slow. Each single group can not undertake alone and in competition the field tests, the laboratory experiments, and the design work which the project demands. The purpose of this paper will

have been achieved if it arouses interest among architects and engineers to co-operate with agreed objects in view. In particular, the need exists for more investigation of those factors which govern psychological states at the observer end, and texture and brilliance at the lighting end, and more attempts in building design to give conscious expression to developments of theory. This is the way rapid advances will be made towards a reliable background for imaginative, sound design.

The remarkable thing is that we now begin to see how similar are our reactions to similar kinds of stimuli around us. We have for too long overlooked the fact that contrast grading, for instance, is as necessary to thermal comfort as to lighting comfort, or that the proper relation between direct and reverberant sound in a concert hall is as important to one's feeling of stimulation as is brilliance in lighting, or an open fire in heating. Here, in comparisons between the known reactions of our different senses, are to be found the confirmations we need to guide us towards the fundamentals of sound design, and here we have once again a reminder of the importance to each other of sensitive architectural study, critical laboratory research, and imaginative technological practice.

Acknowledgments. The paper is an attempt to integrate and explain some of the ideas which activate the team working on lighting and colour at the Building Research Station. The approach is not a negative one, a breakaway from the orthodox lighting technology of the working plane, but a positive attempt to examine the problems of lighting and vision from basic principles and to solve them in a way to meet the needs of both architects and engineers. The achievement of the aim depends on the co-ordination of ideas not only from the team itself, but from all those who are making major contributions in the lighting field. Our acknowledgments to them, as well as to our own colleagues, are clearly due and are gratefully made.

The paper is a report of work undertaken as part of the programme of the Building Research Board, of the Department of Scientific and Industrial Research, and is published by permission of the Director of Building Research.

DISCUSSION

Mr. J. M. Waldram: How refreshing it is to have a new team of people working on a familiar subject. The work of the Building Research Station is not so very new, but when we have a group working there and bringing architects, decorators and lighting engineers together in work in the same field we get some stimulating and new ideas.

I think that we illuminating engineers appreciate, more than the authors have given us credit for, that the lighting of interiors is primarily a matter of æsthetics, in spite of our apparent pre-occupation with arithmetic. The authors have brought together teams studying not only lighting but also acoustics, ventilation and other features which go together in the organizing

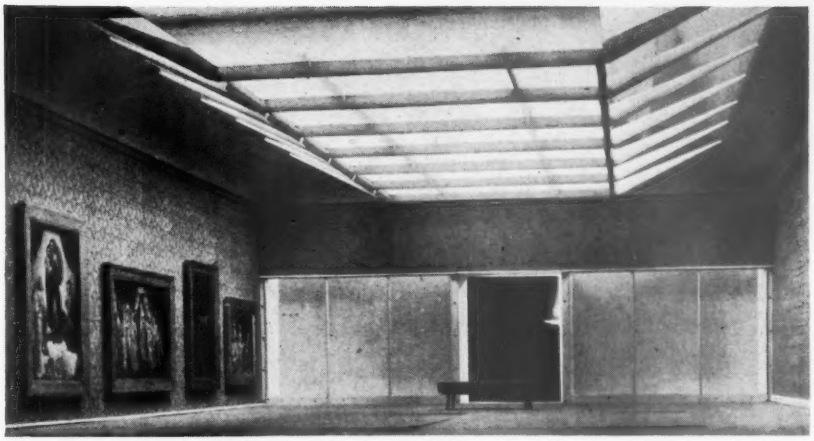


Fig. 11: A view of the model of the Gallery in Fig. 10

of the whole of the interior; but, whereas architecture has no doubt some effect on ventilation and other such things, it seems to me that in the case of lighting we are dealing with part of an organic whole. Surely architects will agree that if there is no lighting there is no architecture. Dr. Hopkinson referred to some remarks of mine on another occasion, when I said: 'Light and seeing are integral and essential parts of all graphic and plastic art; in fact, those arts reside in the significant interplay of the forms created by the sculptor, architect or painter, and the light applied by the lighting artist. Light does not merely illuminate beauty; it creates beauty.' It is for that reason that we in the Illuminating Engineering Society have looked for the coming of men who were not architects merely, nor lighting engineers merely, but lighting artists, who combine in their one person someone who is skilled in æsthetics and lighting technique.

Reference was made in the paper to the question of glare and the effects of disability glare. It seems to me that the question of disability glare merges into the other question of the local visual range of brightness. There is in any interior a local visual range of brightness above and below which one can not see very well, and in most interiors there are some places which lie below the local visual range. I think that we have to be cautious in interpreting the question of disability glare, but I think that the most important question, to which I am sure sufficient attention has not yet been given, is the question of directional effects and modelling.

We have in the techniques available to us, particularly the new reflector spot lights, opportunities for the imaginative use of directional lighting which have yet to be exploited. This requirement is out of harmony with the requirement of glare, because it is not possible to get directional lighting without having bright lighting somewhere, and we have to answer such questions as: How much? Where from? From how big a source?

Mr. Richard Sheppard [*F*]: There are three points which seem to me to stand out in the paper. The first is the purely architectural side of the problem. I have been surprised to find that illuminating engineers are also concerned with daylighting. The point which seems to me to arise very clearly is that if we design well and thoughtfully we shall probably produce a well illuminated interior. I think that the model of the picture gallery that the authors have shown us is most instructive.

Secondly, in designing a building we are confronted with the problems that arise in regard to illuminating artificially. Too often we find that a building has been conceived in terms of daylight, and seldom is the same coherent attempt made to relate the design of the lighting to the form and shape of the building. We can see that most clearly in churches. In some churches, particularly the mediæval ones, the daylighting properties are excellent, but that is not the case with the artificial lighting. Again, in the case of St. Paul's cathedral the form of the building is thrown up admirably by the daylighting but not by the artificial lighting.

Mr. R. O. Ackerley: In thinking over the paper, I came to the conclusion that it was a very good paper addressed to illuminating engineers, but I wondered whether it was as good a paper addressed to architects. In the paper the illuminating engineer is made to appear as a rather soulless moron who, with the aid of a slide rule, works out the lumens. That is a considerable exaggeration, but it does not do any harm to tell the illuminating engineer what he is like.

I feel that the architect and the illuminating engineer should get together to a very much greater extent, and the first step towards that is that they should understand one another's language. I say that both in the literal sense and in the wider sense of understanding one another's point of view.

Mr. E. Rosenberg [*L*]: We were shown a few examples of good illumination, such as a Georgian window, produced by architects who did not 'explicitly understand the scientific factors.' The illuminating engineer also admits that 'much modern window design has found its way towards

Fig. 12: Asymmetrical monitor to give cross-lighting with a preference to one direction

sound practice'. This means, in plain language, that we do hit it off sometimes.

Whether we architects like it or not, we have to recognize that there has been a trend away from the one man, the know-all architect. We have learned to accept the structural engineer, the illuminating engineer and the heating engineer, and we are beginning to call in more and more experts to do particular jobs. We have learned to work with the expert, and we want and need his collaboration. The technique of collaboration itself has to be learned. The foreman on the job, the sanitary engineer and the expert must know, appreciate and believe in what the architect wants. It happens less and less that the sanitary engineer thinks that the building is being erected solely to house his soil pipes and that everything else is unimportant. Collaboration is not only a give and take; it is often a friendly fight to achieve a high standard which everybody sets himself. It is more often than not real fun, too.

Mr. J. B. Bickerdike [*A*]: An example of the work of the Building Research Station is a case that was brought to our notice by a firm of architects for the design of a foundry. They asked us to advise on the daylighting, and at that time we were just beginning to be interested in the problem of the dirty industries, the industries dealing with steel rollings, foundry work, chemical work, and so on. It had always been our belief that there was no very sound reason why the dirty industries should be dirty. We therefore thought that this foundry job gave us an opportunity to go into the matter in more detail, and we felt that it could be made clean by attention to good lighting, good ventilation, cleanliness and colour. Those obviously are interrelated factors. We reasoned that uncontrolled ventilation allowed dirt and heat to be diffused all over the foundry to those areas which would otherwise be clean, and that a colour scheme which was used in those circumstances would quickly lose its effectiveness; also that there would be a cleaning problem, which in this case—a foundry of about 250,000 sq. ft.—would be serious.

In a foundry the ventilation and the heat flow seemed to us to be nearly one and the same thing, and we reasoned that in general our objective should be to control the heat flow around the hottest processes. In this particular case the cupolas developed a tremendous flue action, which could obviously be turned to advantage, and we reasoned that the air inlets in the foundry should not be located in the area of the cupolas but should be situated in the distant walls of the foundry, so that the cupolas by their flue action would draw fresh air across the main body of the foundry. If the air inlets were near the cupolas, the cupolas would simply short-circuit fresh air from the outside, and fumes and dirt would then be diffused over the work again.

The proposals originally contemplated consisted of a series of monitors, and upon analysis we found that the levels of illumination were particularly low. A 40 per cent area of glass was used, which is fairly high. We set about the modification of the scheme. We found, for instance, that in the whole of one area the values never exceeded the sky factor, and in most of the areas they were down to about 1 per cent. Our recommendation for factories is a minimum of 5 per cent. One modification used the same area of glass but increased the illumination about three times. This modification is an example of the monitor which Mr. Rosenberg mentioned that he used in one of his factories. 4 per cent of the 40 per cent of glass used is in the top or roof of the monitor. It is rather remarkable that about 4 per cent of the glass produces practically a quarter of the total illumination of the place, and one of the obvious conclusions is that, of course, horizontal glass in that kind of situation is much more efficient than vertical glass. The sloping part of the glass really gives the high values which we now get as compared with the original solution.

In the scheme as originally conceived by the architects, concrete was used on the roof, and it seemed to us that concrete over the whole of the construction was a sensible solution for a foundry, where the maintenance of steel work, owing to corrosion, is an extremely difficult matter. That led to the development, in co-operation with the architects, of the structural system which is shown in Fig. 13. What happened in fact is that we formed the roof structure into a series of louvres crossing one another, which act as screens for cutting off the bright views of the sky. It was of prime importance that we should create quite large areas in the roof part of the foundry which would be well lit, because there is nowhere else in the foundry where colour can be used.

Mr. H. C. Weston: With regard to the conflict between the requirement for good visual acuity and attention to the work, to which the authors referred, I feel that a closer inspection of the work of Lithgow would resolve that conflict, because a very high acuity can be obtained with a task-surround brightness ratio of any value between unity and infinity, and Lithgow found the highest acuity which he was able to measure was when the task was 33 times as bright as the surround.

Dr. R. G. Hopkinson (in reply): Mr. Ackerley suggested that the paper indicated that we felt that the illuminating engineer was, as he put it, a soulless moron. I am sorry about that; it is decidedly not what we intended to say, but when I first went to the Building Research Station, a few years ago, it was precisely what I felt myself. Whether any significant difference has been made in the intervening years I could not say, but I do think that the more illuminating engineers see of the work of the architect and the traditions that he has behind him in the field of lighting the more they will feel how very worth while collaboration with the architect is.

We have in fact made a very detailed study of Lithgow's work, and I think it is largely because Lithgow's work has been misunderstood in America that the technique which the Americans call brightness engineering has developed into such a rigid technique that it gives so little scope for thought.

The directional effects of lighting are very important indeed, and the question of texture and shadows is one of the essential questions concerned with good lighting. But we must not think of lighting as a static thing and consider only the static problems. There are many factors which are favourable to static lighting but which are unfavourable to dynamic lighting, the type of lighting which governs the ready perception of movement.

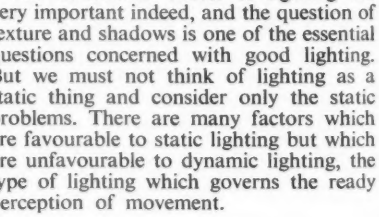


Fig. 13: Roof structure with louvres crossing each other

Housing Needs of the Old

A Discussion Meeting at the R.I.B.A. on 13 April 1951
Mr. H. S. Goodhart-Rendel, Mus.B. (Cantab.), M.A. (Oxon.) [*F*], Past President R.I.B.A., in the Chair

Principal Speakers: Sir Edward Bligh, Chief Officer of the Welfare Dept., L.C.C. Mrs. M. N. Hill, Chairman of the Hornsey Housing Trust, Chairman and Founder of the Hill Homes and Member of the Advisory Council of the National Corporation for the Care of Old People. Mr. A. Llewellyn Smith, M.B.E., M.A. (Oxon.) [*F*,] Architect to the Shoreditch, Hackney and Highbury Housing Association

The Chairman said there was no need to stress the importance of the subject under discussion. As Honorary Treasurer of the Architects' Benevolent Society he particularly appreciated the urgency of the problem of providing places where old people could live happily.

Introducing the speakers he said that Sir Edward Bligh was Chief Officer of the Welfare Department of the London County Council and he had also been a member of the Nuffield Foundation. Mrs. M. N. Hill was Chairman of the Hornsey Housing Trust and Chairman and Founder of the Hill Homes; until recently she had been Chairman of the National Committee for the Care of Old People and was still a member of it; also she was a member of the Advisory Council of the National Corporation for the Care of Old People. The third speaker was Mr. A. Llewellyn Smith, M.B.E., M.A. (Oxon.), F.R.I.B.A., architect to the Shoreditch, Hackney and Highbury Housing Association. He was experienced in conversion work as well as the provision of new homes for old people.

Sir Edward Bligh said that no one was to suppose he was making any policy pronouncement on behalf of the L.C.C.; rather he proposed to state the problem for the architect in the informal way that a client would do. There were about 5,000,000 old people in the country and he thought we should be careful not to make too many generalizations about them.

About 95 per cent of the old people lived in the ordinary way in the general community and wanted to go on doing so. Mostly they continued to live in their own homes. They could do this if they were reasonably healthy and if there was a daughter or someone who could help with the house-keeping. It was the lone old people with whom he was mainly concerned. While it was the traditional system in this country that they should live with their children, it did not always work out smoothly for either party. It was often said that the sense of family solidarity and the willingness of friends and neighbours to help was diminishing today. There were obvious reasons for this and it was becoming necessary for the Welfare State to provide more of the services which were formerly given by relatives and neighbours. There were the numerous aids provided by home helps and home nurses, laundry facilities, meals on wheels and clubs. The latest development was that put forward in the circular of the Ministry of Health urging Old People's Welfare Committees to draw up lists of old people who needed visiting and help and corresponding lists of volunteers to do that visiting. The home helps in London annually gave 1,940,000 hours of home help and home nurses in London gave treatments to 7,000 men and 14,000 women. Sir Edward Bligh continued:—

'One of the main aids to old people to enable them to maintain themselves in the general community is provided by the architectural profession, namely, the housing which is provided for old people. The general aim of local authorities now is, I think, to allocate 5 per cent of their new building to the special needs of old people, and they generally provide such housing in the form of two-storey flats or bungalows. They can either scatter the houses amongst those of the general population or put them in groups. Those who visit the old villages and towns in this country will notice the great number of grouped cottages for old people. These almshouses have been the traditional way of looking after widows and widowers in their old age, keeping them somewhat separate from the hurly-burly of ordinary houses but, at the same time, keeping them well within the town or the village.

'In the new L.C.C. housing estate at St. Paul's Cray, provision for old people is in the form of a quadrangle, with bungalows on the four sides and one higher building, which is the club room, the modern equivalent of the chapel in the older almshouses. It is a very pleasant and charming group, built last year. The local authorities can either build new houses for old people or recondition existing cottages and almshouses; under present conditions I am in favour of as much reconditioning as possible.

'On the subject of care and attention homes, with which I am specially concerned, I am going to put before you briefly some points which I suggest you should discuss.

'The first question, obviously, is whether these homes should be large ones or small ones. The general opinion now is that they ought to be small and that the large homes should be abolished as soon as possible. Let us be realistic about this matter. I am responsible, under the L.C.C., for dealing with 6,000 old people, and, in spite of our accepting most faithfully the policy of replacing large homes by small ones and doing a great deal in that direction, the fact remains that 4,800 of the 6,000 old people are still in our large homes and we have only been able to provide small homes for 1,200. Therefore, only one-fifth of the total number are in small homes and four-fifths are still in large homes.

'The matter is not so clear and simple as seems to be generally assumed. There are very many old men and old women who would rather live in a large home than in a small one. I do not think that many people yet realize what a very great change has been made in these institutions. I admit that they are the former workhouses and that they were called institutions. We now call them large homes. When you look at them from the outside you may feel that old people can not possibly be happy or

comfortable in such places. I very often take people of all kinds to visit them, and they express astonishment at the very great change that has taken place in the last few years. The old people who live in them are completely free to go in and out as they like; they have their own clothes; they have an income and pay a guinea a week for their keep; they have no work to do; amenities of all kinds are provided for them; canteens are provided; we send the old people away for seaside holidays; we take them out in char-a-bancs, and if we take them to races we put them into touch with bookmakers; we encourage them in handicrafts.

'I think it is wrong to go on saying that old people are still being put into workhouses. It causes a great deal of distress to their relatives and friends, and it is not true. I am not saying that there are not drawbacks in these large homes. The dormitories are big, with long rows of beds. We can, I hope, overcome that drawback by what is called "cubicalization." There is great scope for the skill and imagination of architects in adapting these existing large buildings, which we can not do without, in such a way as to make them more homely and pleasant.

'Another question which I think you should consider is whether we should concentrate on new building or recognize the need for adaptation. In London we are building three new homes and we have got two more planned. That is really an achievement in these days of having to get licences. We have adapted 20 small homes, and we have, of course, adapted all our large homes.

'Another point is the choice between putting old people in the centre of the towns where they have always lived and where they want to go on living, or taking them out into the country. In London we have had to compromise on the suburbs.

'Another matter to be considered is whether these homes should be for men only, for women only, or mixed. We have found it useful to have at least one home for men only and another small home for women only. Most of them are mixed, and that is the orthodox practice, but in the mixed homes we find that the women like to have men about the place whereas the men do not seem to like to have women there. I could give you reasons for that, but you will realize that people of my age have learned to have a little prudence!

'Another important question is that of single rooms and bed-sitting rooms. The Ministry of Health is resolute in pressing local authorities to provide single rooms and even bed-sitting rooms. I think it is a little inconsistent to say, as is so often said, that the great curse of old age is loneliness and then, when old people are brought into a home, to put them into single rooms. It is a fact that the lonely old people enjoy the company in our homes, and many of them have a horror of sleeping alone. Often they are afraid of what may happen to them in the night.

'It seems to be taken for granted that there must on no account be any steps inside an old people's home, and I noticed that St. Paul's Cray was most carefully levelled up, but that the only way for the old people to get to shops, churches and cinemas was to go up a beautiful avenue of 39 steps. One of my matrons went to a training course about old people's homes and I asked her afterwards what she had learnt there. She replied: "One thing I learnt was that old people should be put on the first floor, so that they get some exercise in going upstairs". Therefore, we have this paradoxical situation, that architects are going to great expense and trouble to put old people into houses with no steps in them and then our friends, the geriatricians, make them walk up the kind of ladder that one sees at the side of gymnasiums. There is room, I think, for a little scepticism on the subject of steps.

'The question of sick bays is too big a subject for me to discuss now.

'On the question of gardens, our experience is that the smaller the garden the better.

'With regard to costs and standards, I do not think that Mr. Llewellyn Smith will be able to resist referring to the high costs of our old people's home at the Festival site in Poplar. I can assure you that if the cost is high it is not Festival inflation. It is due to the insistence of the Ministry of Health on standards which are resulting in a cost of £1,300 or £1,400 per bed. I think that some of these old men, who have lived strenuous and simple lives and are then put into a home with fitted carpets, panelled walls and club chairs, must feel rather like Christopher Sly in the *Taming of the Shrew*.

'Although I am naturally speaking of the provision for old people made by the statutory authorities, my Council welcomes most warmly the provision of care and attention homes for old people by voluntary bodies. The harvest is great and all labourers in the field are wanted. We are able to help voluntary bodies by securing for them the subsidies from the Ministry which are paid to us. We are very glad to send suitable cases to them at generous rates of pay, and we have sent no less than 400 of our cases to voluntary homes instead of to our own provided homes. I am very glad that these voluntary homes have such a skilful and inspiring example set to them by the lady who is going to address you next.'

Mrs. M. N. Hill: 'Sir Edward Bligh has given us a most interesting picture of residential homes for old people, and I am going to speak more about the 96 per cent or 98 per cent of old people who live in their own homes and who wish to live there for as long as possible.

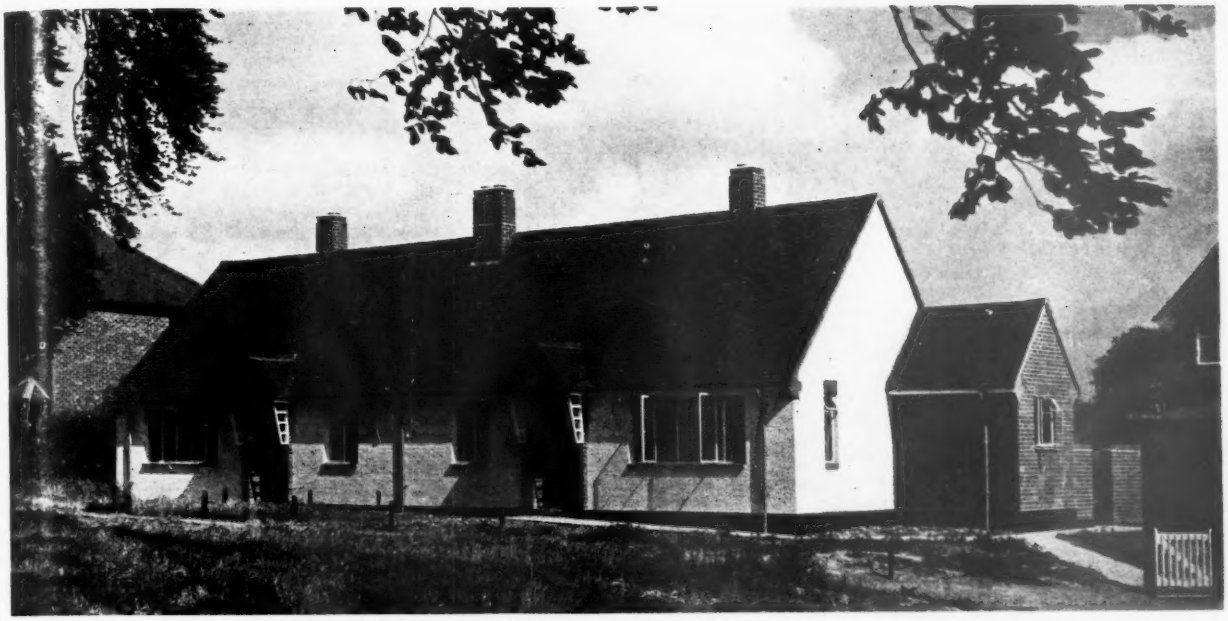
'When I came to think of what the housing needs of the old were, it seemed to me to be a very simple matter. What the old want are convenient dwellings, flats or houses, where they can live by themselves for as long a time as possible. A very large number of designs for such homes have been and are being made, and it all seemed very simple and there seemed to be very little else to be said. But is it so simple? In some areas small houses and flats will be built, especially in the devastated areas, where there is space for them, but, as I see it, the problem is not solely a question of the sort of dwellings that we propose to build in the near or the distant future for old people. I want to emphasize the question of how they can live in reasonable comfort at the present time.'

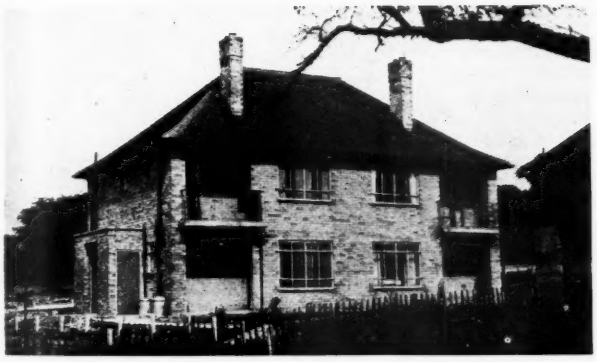
Continuing, Mrs. Hill said the present rate of new building in the country was such that they could not ignore existing houses and must not concentrate entirely on new building. In the area which she knew best, 16 per cent (i.e., about 13,000) of the total population were old age pensioners. Since the war only 50 new houses or flats had been built for the old and 20 more were being planned. Most of these 13,000 old people were living in couples or alone, some with relatives, though that number was continually decreasing, owing to the fact that family accommodation was usually barely enough without any additional member. She had found many old people extremely unhappy because they knew they were overcrowding their families and taking up rooms that should be used for children. She was afraid that this situation was bound to develop further. One argument for the immediate building of a certain number of houses for old people was that it frequently released much larger houses for families. This problem was not confined to the very poor; many people with a certain amount of money would be really thankful for small and comfortable flatlets in exchange for their houses.

The great majority of old people were living in one or two rooms in somebody else's house, usually upstairs, seldom with any real amenities and with little privacy. Furthermore, they were in constant fear of being turned out, though the Rent Restriction Act had helped many.

In a random sample she had taken of about 100 old people, only 6 per cent lived in small houses and 25 per cent lived on the second or third floor. Of those living in divided houses only 11 per cent had self-contained flats. Only 5 per cent had gas fires and 8 per cent modern coal fires. The important immediate problem seemed to her to be to give greater convenience to those living in other people's houses. The Churchill Homes had now been able to alter some 39 or 40 houses and to provide excellent accommodation for old people in flatlets. Mrs. Hill went on to say:—

'Eighteen years ago I started a Housing Trust in our own area, and we now have about 200 old people in 50 houses, in addition to a few families, and one block of newly built flatlets. Incidentally, 16 of the new units built for the old since the war were built by this Trust. When the work of the Trust was started we could do very much what we wanted. Moreover, the old people were poorer than they are today,



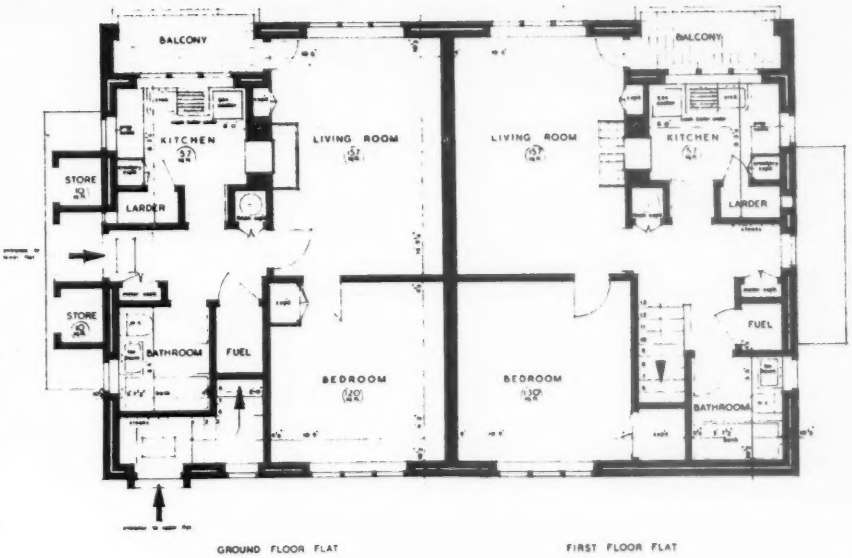


Top of the page: Bungalows for Aged Persons at Houghton Regis. Luton Rural District Council. Architects: The Peter Dunham Group [*F*/AA]

Two Schemes from the R.I.B.A. Exhibition 'Housing Needs of the Old'

The Exhibition, which consists of thirty vertical panels 30 in. by 40 in., is available for borrowing by Allied Societies or other bodies free of cost, but a small charge will be made for transport. The plan of the tour is now being arranged, and Allied Societies are advised to send in their requests early.

Reprints of the Report of the Discussion Meeting of 13 April, published on these pages, will be available shortly, price 6*d.* each.



Flats for Aged Persons. County Borough of Leeds. Architect: R. A. H. Livett, O.B.E. [*A*]. City Architect

having only a 10*s.* pension and little supplement. One of the great objects, therefore, was to produce something at a very low rent. Actually, the rents ranged from 4*s.* to 10*s.* per week for one or two rooms, including rates and the cleaning and lighting of stairs and landings, etc. As these houses are rent restricted, these low rents are still paid. The majority of the flatlets are, to all intents and purposes, self-contained, with the exception of the bathroom, etc. This has been achieved in many cases by constructing a small lobby out of which both bedroom and sitting room lead. In addition, each has either an enclosed sink or a small kitchenette, which is greatly liked. Although in no way perfect, these old people's dwellings are still some of the most satisfactory in the area. They all have gas cookers, separate meters for gas and electricity, use of bath and wash-house, and, in the majority of cases, access to the garden for drying and recreation. Moreover, all the tenants have the great benefit of security of tenure; there is no danger of their rooms being wanted by the householder or the house being sold over their heads. The reconstructions were simple and cheap, and, undoubtedly, if the rents paid could have been somewhat higher the amenities could have been somewhat more extensive.

'Old houses of fairly good structure exist in their thousands and a great deal more use must be made of them. It is one of the problems of the housing authorities to find out how best this can be done. Local authorities have power to buy and reconstruct existing houses.

'Obviously, most of the new building in the near future must be for families. In addition to that, existing houses are much more easily converted for the use of old people than they are for family use. It is usually very difficult to make flats in older houses sufficiently self-contained for families, though, of course, this work must be considered in the general plan. It is to be hoped that here, as in so many other present-day schemes, the aim will not be perfection for the few and nothing for the rest. We see this in so many directions, and, although ideal plans should be made, we must return to simplicity and adhere to it for years to come. Broadly speaking, the older people are content with simple dwellings, provided that they can have the necessary conveniences; they do not desire labour-saving devices on any large scale. I am quite certain that insistence on standards which are quite beyond the community in matters of expense and difficulty of obtaining supplies should not be maintained at the present time. We have flats being built at a cost of £1,000 to £1,500 each for a few fortunate people, while the vast majority live in extreme discomfort without conveniences of any kind.

'In speaking of the old we have to remember that the age of receiving the pension is the standard of "old age", but many women of 60 are little different from any other adults in the community. The aim must be to make it possible for people to live comfortably and conveniently as ordinary members of the community for as long as possible. This is what they wish to do, and it is desirable that they should do it.

'I do want to emphasize strongly that most houses can be more easily altered for the purpose of the aged than they can be adapted for families. For instance, one bathroom on each floor is quite enough for single and old people, but where families share a bath it leads to friction. The cost of conversion is very much less than the cost of new building. Eighteen years ago, when our Housing Trust was founded, two rooms could be converted into a flatlet at a cost of £20. The cost is not £20 now, but neither is it £1,500.

'To return to the shortcomings which we discovered in our survey of the conditions under which old people live at present: in conversions it will, of course, be impossible to avoid a certain number of old people living on the second or even the third floor, but, if every convenience is there for them on reaching their home, this is in many cases not a very serious matter for the younger old. As one old lady said, "When I'm up, I'm up." What they can not stand is having to go down to fetch the coal, to go down to the w.c., to take waste water down and to fetch fresh water up. It is that which tires them, and not the daily journeys in and out, which mean the mounting of the stairs only once or twice a day.

'In some reconstructions it might be possible, in a really large house or group of houses, to instal central heating and constant hot water, and it might be that the wages of a man to look after these amenities would cost the tenants less than each having their own heating arrangements.

'The older type of house has certain advantages over new building in that the rooms are larger and less uniform in design. Many people still cling to the possibility of individuality. They like their old type of houses, which will absorb their large furniture, and they like their old neighbourhoods and shops. They also like the difference between their accommodation and that of their neighbours.

'Either in their own flatlets or in these converted rooms, the majority of old people can live quite happily to the end of their days, but sometimes this becomes impossible if they are crippled or in extreme old age. The question of housing then takes on a different complexion. There are comparatively few people, however, who reach this stage before they are well over 70, and usually they are over 80 years of age. I do not feel that there should be homes for the able-bodied, other than for the very old, say over 80 to 85. There has been some tendency for people to enter homes before it is really necessary, owing to the difficulty of their finding flats.

'The younger group and those who have valued space and privacy in earlier life undoubtedly prefer single rooms, but, as Sir Edward Bligh said, the very old are more comfortable if they have someone else in the room with them.

'The happiness and comfort of the old people depend very much more on the people who are running the home than on the arrangement of it. It is not a good plan to have very large sitting-rooms in which people congregate for many hours of the day. It is much better to have a series of small rooms.

'There is also another type of house coming into being now, namely, the halfway house, i.e., a home halfway between a hospital or nursing home and a private house or hotel. About nine out of ten of those who apply to come into our residential homes are in frail health. Because they feel ill at times, they do not want to spend the rest of their lives lying in bed; they want to live in a community as far as possible.

'In the past, comfort for the body has been the first consideration in hospital and home, and practically no consideration has been given to occupation and delight for the mind. I venture to think that doctors are liable to consider old people mainly from the physiological point of view and planners from that of physical comfort. I like to think of old people as personalities who need simple care, with opportunities for activity and mental happiness. In this connection, luxurious country houses for townsfolk do not usually afford mental happiness but cause an acute sense of loneliness. The people are taken away from everything they have known, and the luxury which they may get in exchange does not satisfy them. Housing, particularly for the old, should include possibilities of recreation in all its forms, and I am delighted to hear that old people in the London County Council homes are taken to race meetings and for drives in char-a-bancs, and are given opportunities to enjoy themselves in other normal ways. It should be realized that the possibilities of occupation, social life and diversions are more important (if there has to be a choice between the two) than perfection of the house and ideal cubic dimensions.

'To sum up, I should like to give you a picture of the ideal housing conditions for old people. We will assume that in middle age husband and wife lived in a house or flat which was reasonably convenient and had pleasant surroundings. We will imagine that both husband and wife are wearing well and do not consider themselves old, though they are between 60 and 70 years of age. The family has grown up and gone away, and the accommodation of the husband and wife has become too large for them. Ideally, they should move into a smaller house or flat, and they would probably be very willing to do this if the new accommodation was as convenient as their present home and was essentially private. If it was not, they would prefer to remain where they are, although burdened with unnecessary housework and expense. If they could move into a smaller house or flat, or even two connecting rooms, and be given security of tenure, they should be able to settle down comfortably for another ten or 15 years, and perhaps longer. This is assuming that ancillary services such as

home helps, visiting nurses, etc., were available in times of temporary illness.

'It is often the case that when old people become infirm the best course is to enter a residential home. A number of years of happiness may still lie before them if matters are so arranged that they have the maximum personal freedom and adequate comfort and care. I think that some of the new homes being set up by authorities err on the side of too great elaboration and perfection, at great expense to the community. Old people coming from their own homes do not value hospital standards. Possessions and a certain amount of untidiness are natural to them. On the whole the majority of the frail do not wish for single rooms; they find them boring. Curtained cubicles are very satisfactory. In the planning of homes for these people, the possibilities of their getting about must be constantly borne in mind. There should be no steps; ramps should take their place, so that chairs can be easily moved from one place to another and into the garden. A lift is almost essential in any such house of more than one floor, though it need not be large. It is often found more satisfactory to have a number of small tables in the sitting-rooms, and to take the food to the people instead of the people to the food. In the homes for the frail which our Committee has arranged we do not have separate dining-rooms, and this saves space and labour.

'If there is a text for my views on housing the old, it is to consider the simple needs of the many at the present time and not to dream too much about future Utopias.'

Mr. A. Llewellyn Smith, M.B.E., M.A. (Oxon.) [*F*], said he agreed entirely with the two previous speakers and it was the function of the architect to come last on the scene when the terms and conditions had been stated and to make a practical plan complying as nearly as possible with the requirements that had been laid down.

It was easy to form in our minds a picture of the ideal cottage or flat for people of advancing years, but unfortunately many ideal requirements were in mutual conflict. Most of the ideal requirements could be combined in a single dwelling provided one could pay the price and the question therefore was mainly an economic one. In his opinion the best was definitely the enemy of the good. Our real problem was to find the very simplest and cheapest form in which we could provide homes for elderly people.

He proposed to deal mainly with dwellings for those elderly people who were still able to lead independent lives and not with those living with their families. First, as regards siting. In the Nuffield Foundation's Report on Old People it was stated that dwellings for the elderly should have convenient access to 'the communal institutions of modern life—shops, a post office, a bus stop, a library, a place of worship and places of recreation'. The first necessity, however, was that the homes should be as close as possible to the neighbourhood where the old people had previously lived and within easy reach of their relatives and friends. Seclusion was not particularly important; indeed, old people hated to feel that they were cut off from the main stream of life. A nearby public garden was a great boon. Mr. Llewellyn Smith went on:

'Conditions such as I have mentioned may be fairly simple to realize in a village or a country town, but in a large built-up area they imply a relatively expensive site. Undeveloped land on the outskirts or in the surrounding country might be reasonably cheap, but it would be much too far from the old people's previous homes and connections. Of course, if relatives and friends are moving out from the centre to new housing estates or to new towns, the old folk will probably want to move with them, so housing in these new estates, as in the new towns, should include a proper proportion of dwellings suitable for the elderly. Generally, however, houses for the elderly will have to be provided in fully developed areas, where land is relatively dear.

'At the Newcombe Estate in Highbury, where an old vicarage garden was acquired on very favourable terms at the beginning of 1947, the cost of the land and the legal expenses worked out at about £70 per head, and I should doubt whether the average cost of land per head for old people's dwellings in built-up areas is likely to be much less than £100. Let us compare this with the cost of buildings, land and legal expenses in three recent conversion schemes. In that case the cost per head worked out at about £192, so that for about £100 extra you get the house thrown in.

'When we turn to the types of dwellings suitable for old people there is room for much difference of opinion. The Nuffield inquiry tended to show that very few old people liked flats and that, as between two-storey cottages and bungalows, there was a slight preference for bungalows. The Committee conclude that, if the present wishes of old people are to be met, the provision should take the form mainly of bungalows and two-storey houses, though they recognize that in urban areas the main provision must be in blocks of flats. They suggest that flats for old people should be high up where there are lifts, but that otherwise they should not be higher than the first floor. If we set aside for the moment the case of high blocks of dwellings with lifts, there is no economic advantage in two-storey blocks of flats over two-storey cottages. The Nuffield argument therefore implies that at any rate sometimes in urban areas old people should be provided for on the ground and first floors of three-storey blocks of flats, or of four-storey blocks of flats combined with maisonettes (because anything higher than this means the provision of a lift), and it also means that other types of housing units, including perhaps family flats, can be provided on the upper floor or floors. Whether or not it is a good thing to accommodate elderly people and families in the same block of flats is a debatable point, but personally I think it is a mistake, because of overhead noises. Sound insulation can be carried out effectively, but it is so very expensive that it is really out of court.

'Bungalows, of course, are ideal, but any general development averaging less than three storeys is uneconomical in urban areas. Old people seem to prefer two-storey cottages to flats, but I do not know the reason for that. If your bedroom is over your living-room you will be up and down the stairs many times a day. If we assume that stairs are a drawback for old people, surely it is better for them to live in a flat on the first or even the second floor, where all their rooms are on one level and they have to use the stairs only when going out and returning home. Personally, therefore, I think that, where bungalows are not economically possible, old people's dwellings should take the form of blocks of flats rather than cottages; that old people need not be restricted to the ground floor and the first floor but can be accommodated as high as the second floor; and that, where on other grounds two-storey cottages seem to be the most suitable form of development, they should take the form of cottage flats, in which each dwelling is entirely on one level. I would also suggest that, though it is most important that old people's dwellings should not be segregated in separate colonies but should rather be interspersed among dwellings intended for other age groups, no attempt should be made to combine old people's dwellings and family dwellings actually within the same building.

'The great majority of elderly people who require separate accommodation will be single or widowed old ladies living by themselves, but a fair amount of provision will be needed for elderly married couples. Therefore, with but few exceptions, we shall be concerned with one-bedroom dwellings or bed-sitting-rooms, possibly with a bed recess. In addition to that, we are told that these dwellings need a kitchen, a bath and a water-closet, storage for provisions, an indoor fuel store and a satisfactory means of refuse disposal. We should, of course, agree that all these facilities are no more than is necessary in a dwelling for an elderly couple, and in new buildings we are made to provide them, even for single persons, as a condition of receiving the subsidy. We are told, moreover, that "the design and construction of dwellings for the aged should be up to the level of taste of the next generation of old people". That sounds very nice, but it is obviously quite absurd to pretend that there is anything impracticable or distasteful in expecting two old ladies living in adjoining flats to share a bathroom and w.c. In the Nuffield Report the possibility of sharing in the case of conversions is recognized, but for some reason it is expressly deprecated in the case of new bungalows. The truth is that to provide each old lady with her own bathroom and w.c. is no less wasteful in a new building than it is in a conversion, and, if it were not for the subsidy operating in the case of structurally separate dwellings, no one would dream of it. The cost of building

nowadays is so great that extravagance of this kind really must be avoided.'

Mr. Llewellyn Smith went on to say that the special requirements of old people's dwellings included wall handrails on staircases in addition to the balustrade, non-slip floors, cupboards planned to avoid unnecessary stooping and stretching, grabrails for baths and, on bathroom and w.c. doors, bolts and locks which could be easily forced if necessary.

The question of heating was important. Old people were sensitive to cold and draughts ; they ought not to be expected to carry scuttles of coal or cinders up and down stairs, and they ought to be spared the extra cleaning resulting from open coal fires. Old people undoubtedly had a sentimental attachment to the coal fire and the various substitutes did not quite fill the bill. He personally considered portable electric and gas fires rather dangerous. Gas coke fires and enclosed stoves were less costly to run but they involved the handling of fuel and ashes.

He felt that the proper course, wherever economically possible, was to instal central heating throughout and to provide fixed gas or electric panel fires controlled by slot meters for occasional use. Central heating would include central hot water supply. Unfortunately, the additional cost of central heating could not always be faced. At Goldsmiths' Court the cost of installing central heating and hot water supply, with underfeed boilers, for 16 flats had worked out at nearly £70 per flat.

The cost of housing elderly people by new building was so appalling that it raised the question whether the problem ought to be tackled in that way at all. He understood that the Festival home at Poplar, containing 33 single and 8 double bedrooms, had worked out at about £1,346 per head. He felt that on that kind of basis the country would never be able to afford to make much impression on the problem of housing the aged. Mr. Llewellyn Smith continued:

'Comparative figures of cost are difficult to obtain, and I do not claim that my figures are conclusive or indeed more than suggestive, but they come from my own office and therefore nobody can contradict me. At the Newcombe Estate in Highbury, where we are building 18 flatlets for old couples, 12 bed-sitting-rooms for old ladies and a block of family flats, the inclusive capital cost per head, on the assumption that we succeed in completing within the contract figure, is £960 in the block containing the bed-sitting-rooms, £729 in the two blocks of old couple's dwellings, and, for comparison, £562 per head in the small block of two-bedroom family flats; the average over the whole scheme being £712 per head. That includes the purchase of the site and the legal expenses, the cost of the building and site work and the professional fees. The site was bought on very favourable terms. We are, moreover, building to extreme austerity standards, and I think we have taken advantage of every possible means of economy. Therefore on the whole it is probable that the comparable costs of other schemes would be at least as high and possibly even higher. We shall not go far wrong, I think, if we take the minimum cost of rehousing old people in new bed-sitting-rooms as about £1,000 per head.

'Let us compare that with the cost of providing suitable bed-sitting-room accommodation in converted middle-class houses. It is very difficult to produce strictly comparable figures, because in the case of conversion the major element of the cost is the purchase of the house and site, and the cost of house property varies very greatly according to the circumstances of the case. All I can do is to take the cost of three small conversion schemes which we ourselves carried out between 1947 and 1949. There the average inclusive cost worked out at £406 per head. To bring that up to date I suppose we ought to add 10 per cent. and call it £445. In none of these schemes did we feel able to provide central heating or a central hot water supply, but those amenities could easily have been added if we could have afforded them, and Mr. Steele has very kindly worked out for me the probable cost. It amounts to about £53 per head, spread over the three schemes, which brings the total cost to about £500 per head. Therefore in suitable circumstances good accommodation can be provided for single old people in converted houses, including central heating, hot water supply and other amenities, at just about half the cost of building new bed-sitting-rooms, without central heating or hot water. I am bound to say that I am not myself surprised at those figures, and I should have thought that the cost would be a good deal less than half the cost of new building. The figures I have given are based on three quite small schemes, and I dare say that if the survey was spread wider better figures would be produced.'

Mr. Llewellyn Smith went on to say that in a converted Victorian house the rooms were generally much larger and often lighter and nicer than rooms which we could afford to build nowadays. In each of the three houses which he had converted since the war, from five to eight old ladies had been accommodated with bed-sitting-rooms and there was a flat for the caretaker and his family. The caretaker went out to work, but his wife and he were available to attend the old people in emergencies and at night and they also managed the garden. Each bed-sitting-room had its own simple kitchen fittings—a small gas cooker, sink, food cupboard, store cupboard and dresser, generally in the room itself but sometimes, where the plans permitted, in a small separate kitchenette. A bathroom and w.c. were provided on each floor and were shared by two or three tenants. He continued:

'It may be that suitable houses are not everywhere available, but there is usually no dearth of large and rather old-fashioned middle-class houses, at any rate in neighbourhoods not regarded as particularly eligible or select. It is almost absurdly simple to convert large terrace houses of the type so familiar in London. They have a large room in front and a smaller one at the back, with the stairs taking up the rest of the space. They may have also a small back-addition opening off the half-landing of the stair, which can be used for bathrooms and w.c.'s, and possibly a washhouse. Otherwise a part of the large front room, over the entrance hall and opposite the stairs, can be partitioned off on each floor and fitted up with a bath, w.c. and basin, to serve the two bed-sitting-rooms on that floor. In this way two bed-sitting-rooms, with shared sanitary facilities, can be provided on the ground floor, two on the first floor and two on the second floor, and possibly also two in the basement if the levels of the ground and the condition of the property permit. The third and fourth floors can be made into a maisonette for the caretaker.

'If it is true that it costs about twice as much to rehouse the elderly by means of new building as it costs to rehouse them by means of conversion, the conclusion surely must be that we ought to rely much more on conversion wherever suitable houses can be found for the purpose. In large built-up areas it is usually possible to find suitable properties, and, as Mrs. Hill has pointed out, they can be converted much better for bed-sitting-rooms than they can for family dwellings, because there is not enough space on each floor to make an independent dwelling.

'Under the Housing Act, 1949, grants are now available towards the capital cost of conversion or improvement schemes. Sections 20 and 21 of the Act empower a local authority to make a capital grant of up to 50 per cent. of the cost to persons embarking on approved schemes of this kind, and Section 31, which applies specifically to voluntary Housing Associations and Development Corporations, authorizes a local authority to make grants equal to three-quarters of the estimated annual loss incurred on schemes of conversion or improvement for 20 years. I do not myself know how these provisions are working in practice, but I have been told that the standards of service and amenities insisted on by the Minister under Section 20 of the Act are proving unduly onerous. If this is true, and if it is tending to defeat the purpose of the Act, it is a matter on which representations might be made.'

DISCUSSION

Mr. P. L. Leigh-Breese, J.P. (Secretary of the Guinness Trust and Chairman of the National Housing and Town Planning Council), opening the discussion, thanked the R.I.B.A. for organizing the meeting. He regretted that Sir Lancelot Keay was unable to be present. He had had the honour of sitting with Sir Lancelot for the past two years on a Sub-Committee of the Central Housing Advisory Committee which had been studying the housing of special groups, and whose report was about to be published. He continued:

'We are dealing with a problem which is of vital urgency at the present moment, but let us face the fact that our local authorities,

as the responsible housing authorities, are having to develop new housing estates and to go on developing them, and they must have some guidance, from those of us who have been dealing with this matter a little longer, on how to provide for old people. We think that they ought to provide, on their large new estates, for all the different types of old people.

'There are three kinds of dwellings that are wanted. The first is the self-contained dwelling for the old couple, and the old widow, widower or single person who lives alone. Then there is the next stage of accommodation, for those in need of care and attention, that is to say, those who want a smaller dwelling and some assistance with their meals and fires, the cleaning of their rooms, and so on. Lastly, there is need for very much more provision for the chronic aged sick, and in that connection I want to stress the need for the closest co-operation between all the responsible authorities at the very inception of any scheme. One of the arrangements which some of us do not like at the present moment is that the housing needs of old people are the responsibility of the housing authorities; their welfare needs, i.e., their care and attention, are the responsibility of the welfare authorities; and their chronic aged sick needs are the responsibility of the Regional Hospital Boards. That results in a great deal of delay in getting old people looked after and transferred from one place to another quickly and properly.'

Mr. Douglas Ward said that by far the greatest problem was that of the infirm old people, in need of continuous nursing and attention, but who could not find permanent accommodation in local hospitals.

Mr. R. W. Steele said that we all liked the open fire, but were now dealing with an acute shortage and high cost of fuel. He believed that in the housing estate with which Mr. Llewellyn Smith was concerned the cost of open fire heating worked out at 2½*d.* per cubic foot of heated space, while central heating was 0.8*d.* per cubic foot of heated space, and that included corridors. He thought it a serious matter for elderly people to go out of a warm room to the bathroom or w.c., and there were also questions of smoke abatement and fuel handling. Therefore, if the best accommodation at a reasonable cost was to be achieved, central heating ought to be considered.

Miss N. Grange, M.B.E. (Regional Officer, Women's Advisory Council on Solid Fuel): I feel that Mr. Llewellyn Smith was rather unkind in what he said about the open fire, because the majority of old people are very fond of it. They like the radiant heat and, unless they are quite incapacitated, they do not really mind attending to it. We have very often been asked to find out what type of heating should be put in houses for old people, and many organizations and many people have given us suggestions. I would say that, for urban areas, one of the best things to do is to supply a continuous burning open fire of a simple type, with a back boiler to provide hot water, and to supply gas or electricity for cooking, whereas in rural areas I think people like an open fire of the combination grate type; they like to do all their cooking on it and to sit by it.

Mr. Ronald Gardner (Research Group, Old People's Welfare) said he had taken very much to heart what had been said about the need for economy, but as 'a future old person' he looked with some concern at the sort of accommodation which was going to be made available. The voluntary Housing Associations and Trusts had not always the financial resources to provide anything very elaborate, but the accommodation which they were providing would have to compete in future years with other types, and they should try to adopt the same standards. New housing would fall into the hands of the local authorities to a considerable extent, and the local authorities could enlist the aid of the voluntary associations, which were often in closer touch with old people and knew more about their intimate problems than was possible for people in a more official position.

He was concerned about the great many accidents which occurred to old people. The 13½ per cent of old people in this country suffered half the total fatal accidents in the home every year. He favoured some form of background heating which contributed to health and comfort and tended to reduce accidents. It was not very easy to provide in old people's bungalows, except in schemes of fairly high density involving low capital costs.

For local authority care and attention homes he was strongly in favour of background heating and possibly some form of air conditioning which would reduce the cost of cleaning. Lighting was extremely important. Poor lighting resulted in a number of falls, particularly in converted houses.

Mr. C. W. Steedman (Borough Surveyor, Wembley): Despite the figures that we have been given this afternoon of high costs, some people still have not got their feet down on the ground. Mr. Gardner has put forward some very fine ideas, but how are we going to pay for their being carried out? I was appalled when Sir Edward Bligh said that we were having to spend £1,400 per bed for old folks in Poplar. I have to build whole houses for five people for that sum. Our present costs for bungalows for old people in Wembley are working out at just over £400 per person, plus a further £80 for the land, roads and sewers. We are letting these bungalows at 8*s.* a week.

I should like to have from others a little information about what they regard as the maximum number of old folks' homes that ought to be put together on any one site. At the present time I am having a little battle with my Council, who are asking me to prepare a scheme for 60 bungalows on one site. I feel that that is rather too many.

Mrs. M. N. Hill: I rather agree that 60 is too many. I do not very much like having the old people too much mixed up with the young ones, because of the noise, and so on. We have a close of 30 bungalows near other houses, and that seems to me to be about the number that you can have without their being too crowded together.

Sir George Wilkinson (Chairman of the National Corporation for the Care of Old People): When I arrived I was given a paper prepared by the R.I.B.A., which said: 'In arranging a discussion meeting on the housing needs of old people the Institute considered that it would be of value to provide an opportunity for the exchange of views between architects and representatives of voluntary and statutory bodies concerned with this important question. Especially they felt this to be so at a time when a possible reduction in the building programme might cause the need for this type of accommodation to be overlooked'. I think the Royal Institute is answered by the presence here of this large concourse of people who are interested in the work for old people. It is without doubt the greatest problem of the time. Whatever the financial position of the country may be, the work for old people must not be overlooked and our enthusiasm for it must in no way be diminished.

Discussing the addresses of the three speakers, which he considered to be most constructive, Sir George Wilkinson questioned the suggestion that people did not like single rooms because of the dread of loneliness. A voluntary organization that had from 22 to 24 homes had found the greatest difficulty in getting people to occupy the few double or treble rooms.

There was no doubt, however, that in homes where the occupants were infirm, sick bays, accommodating four or six people, ought to be provided. He had been glad to hear Sir Edward Bligh say that the L.C.C. welcomed the work of voluntary bodies. The problem was so huge that he was quite sure it could not be dealt with unless the organizations concerned got together. He quite agreed that converting existing houses was a method that could not be ignored. There was no doubt that money would not be available for building new accommodation for all old people. Converted large houses gave old people that community life which was necessary for their happiness. He thought the ideal number of occupants was probably 25 or 30. If we could convert and adapt existing houses at a cost of about £200 or £300 per person, we should help to meet the great need which existed. In conclusion he felt that the meeting had served an admirable purpose. As Chairman of the National Corporation for the Care of Old People he thanked those members of voluntary bodies who were present for the splendid work they had done in this most deserving cause and he thanked the R.I.B.A. for sponsoring so fruitful a discussion.

Practice Notes

Edited by Charles Woodward [*A*]

IN PARLIAMENT. Buildings (Repair Works). Asked what were the tests used by the officers of his Department to distinguish between licensable and non-licensable works in the interior of buildings for the purposes of Defence Regulation 56A, the Minister of Works replied: In the vast majority of cases the licensable work is clearly distinguishable, but where any doubt arises my officers can obtain legal advice.

Asked further whether it was not the fact that the test they seek to apply is the distinction between landlord's fixtures and tenant's fixtures and is not that a difficult test to apply, and does it not give rise to a good deal of hardship in individual cases, the Minister replied: I agree that any test is difficult to apply, and ultimately of course these matters have to be decided by the courts. My officers have instructions, but they are subject to legal interpretation after that. (3 April 1951.)

Building Contracts (Government Departments). Asked how far there is uniformity in respect of the form of building contract used in connection with work for the various Government Departments, the Minister of Works replied: All the principal Government Departments placing building contracts use the standard general Conditions of Government contracts for Building Works (Forms CCC/Wks/1 or 2). Asked further whether it was possible in any case, if it was so desired by the contractor, for the standard form issued by the Royal Institute of British Architects to be used in this type of work, the Minister replied: No. We could not adopt that without considerable alteration. (3 April 1951.)

Planning (Development Charges). Asked how often he has used his power to vary or rescind a determination of a development charge made by the Central Land Board, the Minister of Local Government and Planning replied: I have no such power.

Asked further what directions he had given to the Central Land Board that they shall set out to a developer the basis on which they have assessed development charges and to answer in detail all arguments put forward by the developer against such an assessment, the Minister replied: None. The Town and Country Planning Act 1947 and the regulations made thereunder lay down the basis on which development charge shall be assessed. The district valuer acting for the Board always tells the developer the amount of the charge he proposes to make and invites him to call and discuss it if he does not agree with it. (27 April 1951.)

TOWN AND COUNTRY PLANNING (AMENDMENT) ACT, 1951. This Act came into force on 21 March 1951 and provides that section 12(2)(*a*) of the 1947 Planning Act shall not apply to works for making good war damage which, apart from this provision, would fall within that sub-section. Section 12(2)(*a*) of the 1947 Act specifies operations which are deemed not to involve development under that Act, and this section must now be read with Section 1 of the 1951 (Amendment) Act.

Planning permission will therefore be required for making good war damage, but such work will be exempt from development charge under paragraph 1 of the Third Schedule to the 1947 Act providing that the cubic content of buildings as specified in that paragraph are followed.

Any making good of war damage begun between 1 July 1948 and 13 December 1950, whether or not completed during that period, will be treated as if planning permission had been granted unconditionally.

Section 23(1) of the 1947 Act enables a local planning authority to serve an enforcement notice where it appears to them that development has been carried out after 1 July 1948 without a required permission, or that conditions attached to a permission have not been complied with. Under Section 23 an enforcement notice may be served within four years of the development being carried out. Section 2(1) of the 1951 (Amendment) Act now provides that in cases where a condition attached to a permission is alleged not to have been complied with, that an enforcement notice may be served by the local planning authority within four years after the alleged failure to comply with it. Section 23(1) of the 1947 Act and Section 2(1) of the 1951 (Amendment) Act must now be read together.

MINISTRY OF LOCAL GOVERNMENT AND PLANNING. Circular No. 17 dated 30 March 1951, addressed to Housing Authorities by the Ministry, points out that control of the price of soft wood timber was removed as from 1 March 1951. This will lead to considerable variations in the prices having to be paid by contractors until such time as a general level of price is established. In cases where a contractor intends to seek reimbursement in respect of softwood bought at an increased price, there should be full consultation between the contractor and the local authority before the purchase is made.

At the tender stage for new contracts builders should be required to state their basic prices for softwood for carcassing and joinery and to submit copies of quotations from a timber merchant accompanied by a statement from the merchant that he is prepared at the time of quotation to supply timber of stated quality, description and specification at the prices stated. The authority should consider the basic prices quoted in relation to the respective tenders and the possible effect on final costs of any adjustments of such prices under fluctuation clauses. Where the basic prices quoted in the lowest tender are obviously low, the adjustments on the ascertainment of final cost may result in that tender being less favourable than a higher tender with higher basic prices. Subsequent claims for increases in buying prices should be carefully scrutinized to ensure that contractors have from time to time taken adequate steps to buy timber as cheaply as possible. The Principal Regional Officer will be ready to give guidance on timber prices in regard to any individual contract.

Central Land Board. The Board have issued a leaflet, D.1B (Revised March 1951), dealing with development charge on houses for agricultural workers in England and Wales. The previous leaflet, issued in March 1949, is cancelled, as also are Circulars 62 and 64 issued in 1948. The arrangements provide for the postponement of development charge provided an undertaking is given to pay it when the house ceases to be occupied by a member of the agricultural population. This provision does not apply to farmhouses.

The leaflet can be obtained at any of the Board's offices under the title 'Houses for Agricultural Workers', D.1B (Revised).

Selected Appeals. Bulletin No. 9 of Selected Appeal Decisions by the Minister has been issued, and is obtainable at H.M. Stationery Office, price 6*d*.

War Damage Repairs in the London Region. Circular L.R.L. 4/51 dated 16 April 1951, addressed to Housing Authorities in the London Region, states that in cases of late notification of war damage, any person inquiring of the local authority in respect of such matters may be advised, without any preliminary action on the part of the local authority, to write to the appropriate Regional Office of the War Damage Commission.

Circular L.R.L. 10/48 is cancelled.

Copper and Zinc. Circular No. 21 dated 20 April 1951 refers to the Copper and Zinc Prohibited Uses Orders issued by the Ministry of Supply and the Board of Trade respectively. As from 1 March, except under the authority of a licence, termed an 'exemption licence', the Orders prohibit the incorporation of any metallic form of copper or zinc in the articles mentioned in the respective schedules, except as a surface finish, e.g. by galvanizing, for articles in Part 1 of the Schedules.

Exemption licences will be issued to manufacturers. (Copper and Zinc Prohibited Uses (Ministry of Supply) Order, 1951, S.I.1951, No. 277, and Copper and Zinc Prohibited Uses (Board of Trade) Order, 1951, S.I.1951, No. 275, obtainable at H.M. Stationery Office).

MINISTRY OF WORKS. The following increases in materials have been authorized by the Minister: (M.O.W.31/51. P1.295. 30-3-51.) *Cement*: two shillings per ton for ordinary Portland and Rapid Hardening Cement as from 29 March. *Cast Iron Baths*: two and a half per cent in maximum selling price as from 15 March. *Sanitary Fireclay ware*: seven and a half per cent in the overall maximum selling price as from 24 March. *Roofing Felts and Dampcourses*: five per cent in the maximum prices of roofing felts and dampcourses made to B.S.S. by members of the Association of British Roofing Felt Manufacturers as from 27 March.

Review of Construction and Materials

British Standards Institution. In 1949 the President of the Board of Trade set up a committee 'to consider the organization and constitution of the British Standards Institution, including its finance, in the light of the increasing importance of standardization and the extended size and volume of work likely to fall on the B.S.I. in future and to make recommendations'. The report of the committee has now been published. The Chairman was Mr. Geoffrey Cunliffe.

In this matter architects may be considered as representing the users or consumers, and therefore the following points are picked out from the report, as they deal with that aspect; but the whole report merits study by all who are interested in British Standards.

It was pointed out to the committee that several of the Industry Standards Committees do not include representatives of user organizations. The report commends this point to the attention of the B.S.I.

In the evidence given to the committee there was persistent criticism that the B.S.I. committee procedure did not ensure due weight being given to user or consumer interests, especially on technical committees, because (a) the user or consumer interest was not always properly and adequately represented, and (b) when it was represented it did not succeed in securing proper consideration of its viewpoint, due to the numerical preponderance of the producers or manufacturers, or to their better organization. In either case the contention of the critics was that the manufacturers' interests prevailed over those of the users. The committee considered that this suggestion could not be sustained, as there was little factual support, and what there was had been drawn from a fairly remote past. The committee noted that most technical committees included a member nominated by the professional institution most concerned with the subject. He was a person of high technical qualifications, able to present an independent and informed opinion.

On the question of keeping Standards up to date by revision, the committee recommended that all Standards should be reviewed as a matter of routine every five years, as it is most desirable that Standards should be kept up to date so as to continue to represent the best current practice, in view of the rapid advances being made in technical developments in many industries.

The committee referred to the report of the committee set up under the chairmanship of Sir Ernest Lemon to examine and report on standardization in the engineering industry, who recommended that the B.S.I. should strengthen and extend its staff and facilities, to speed up and intensify its work. The Cunliffe committee accepted the general conclusion of the Lemon committee, but noted that there were the difficulties of finding persons with the requisite technical qualifications; the rate at which they can be trained and absorbed; the available financial resources and the extent to which they can be increased; and the need for better premises.

Regarding finance, the Cunliffe report concludes that the B.S.I.'s expenditure may well reach £350,000 to £400,000 by the end of the next five years, and suggests that 'equal thirds' should represent the general pattern for the future; that is, one third each from subscriptions, sales, and the Government. Suggestions made are that the present minimum subscription of £2 2*s*. should be raised to £5 5*s*; and that firms should pay an annual subscription of 4*d*. to 6*d*. per head of their employees.

The greater the proportion of the income of an organization that is provided out of public monies, the more liable it will become to Government dominance; for this reason the Government contribution should not be in excess of that subscribed by industry; the report therefore recommends that the Government contribution for the financial year 1951-52 shall be a minimum of £90,000; that in 1952-53 it shall equal the income from industrial subscriptions in that year, and that thereafter it shall equal the industrial subscriptions in the preceding year, subject to a maximum of £150,000 at all times.

The committee recommend the appointment of a Publicity Officer.

The report is called 'Report of the Committee on the organization and constitution of the British Standards Institution', and can be obtained from H.M. Stationery Office, price 1*s*. net. S.O. Code No. 51-309.

Raymax Convector Fire. A new solid fuel fire that caught the attention at the recent Ideal Home Exhibition at Olympia was the Raymax, which works mainly on the down-draught principle, so that a good proportion of the smoke passes downwards through the fuel bed. The main point of interest, however, is the polished metal reflector placed above the fuel bed, which reflects into the room the radiant heat rising from the fuel, and the design of the fire is such that the amount of air passing from the room into the chimney is less in comparison with an ordinary open fire; draughts are thus reduced while good ventilation is still maintained. A cast iron surround, with cold air inlet grilles at the base and a warm air outlet grille at the top, can be supplied. The appliance can also be supplied with a wrought welded or copper boiler, suitable for a 40-gallon storage cylinder. A drop cover plate allows the fire to be kept in overnight. The fire is a product of Messrs. Radiation Ltd., of 7 Stratford Place, London, W.1; it has been approved by the Ministry of Fuel and Power.

The Zalpon washing-cream dispenser

The New Hand-Washing

'What! No soap?' How often has each one of us not said that, or, having tilted a liquid soap container, seen its meagre contents trickle away between the fingers? This soap problem is a first-class nuisance to all who are responsible for washrooms—in factories, hotels, restaurants, offices, schools, etc. Messrs. Newton Chambers and Co. Ltd., of Thorncliffe Works, near Sheffield, who are the manufacturers of Izal products, have devised a new washing cream and a machine for delivering it into the hands of the washer. The cream is called Zalpon and is sold only with the machine. It consists mostly of pure soft soap together with a small amount of detergent and a perfume. A single flick of the fingers on the lever delivers the right amount of Zalpon into the hand and it does not run away between the fingers. The machine is locked with a special key so that it can not be tampered with unless extreme violence is used. The refills of Zalpon are obtainable in non-returnable bottles. Messrs. Newton Chambers and Co. have conducted lengthy experiments and say that the Zalpon cream is cheaper than liquid soap, as well as being much more satisfactory, and far cheaper than solid soap, especially if pilfering is taken into account. The machine is sold at £1 10*s*., including purchase tax, and 12 refills cost £2, also including purchase tax, each bottle providing 2,000 washes. Zalpon is being shown for the first time at the B.I.F. and is now available in the open market.

Random Definitions. *Mil.* One-thousandth of an inch. This term is useful when stating the average rate of loss of metal due to corrosion, per year.

Notes from the Minutes of the Council

MEETING HELD 6 MARCH 1951

Appointments

Ministry of Local Government and Planning Housing Medal: R.I.B.A. Members of London Regional Awards Committee: Mr. Oswald P. Milne [*F*] in place of Mr. A. W. Kenyon [*F*].

Direct Election to the Fellowship: By a unanimous resolution the following were elected to the Fellowship under the provisions of the Supplemental Charter of 1925, Section IV, Clause 4: Mr. Harold Morton Cook, Past President of the Queensland Chapter, R.A.I.A.; Professor Robert Percy Cummings [*A*], Past President of the Queensland Chapter, R.A.I.A.; Mr. Robert Snowden Demaine, Past President of the Royal Victorian Institute of Architects; Mr. Charles William Thomas Fulton, Past President of the Queensland Chapter, R.A.I.A.; Mr. Thomas Brenan Femister Gargett, Past President of the Queensland Chapter, R.A.I.A.; Mr. William Purves Race Godfrey, Past President of the Royal Victorian Institute of Architects; Mr. Edward James Archibald Weller, Past President of the Queensland Chapter, R.A.I.A.; Mr. John Roxburgh Smith, F.R.A.I.C., R.C.A., President of the Royal Architectural Institute of Canada.

Berks, Bucks and Oxon Architectural Association: Revision of Rules: The Council gave formal approval to a number of revisions to the rules of the Berks, Bucks and Oxon Architectural Association.

Taxation Treatment of Provisions for Retirement: The Council approved a memorandum of evidence prepared by the Practice Committee for submission to the Committee under the chairmanship of Mr. J. Millard Tucker, K.C., which is studying the taxation treatment of provisions for retirement. The substance of the memorandum was to the effect that as a minimum measure of justice, principals and partners in private practice should be given income tax concessions on sums contributed towards pension provision on the same conditions as are at present allowed for salaried assistants.

Membership: The following members were elected: As Fellows, 10; as Associates, 35.

Students: 94 Probationers were elected as Students.

Applications for Election: Applications for election were approved as follows: *Election 1 May* 1951: As Fellows, 17; as Associates, 214; as Licentiates, 8. *Election 19 June* 1951 (*Overseas Candidates*): As Fellows, 4; as Associates, 21.

Application for Reinstatement: The following application was approved: *As Fellow*: Arthur Fred Collins Bentley.

Resignation: The following resignation was accepted with regret: Jack Learmonth Ochiltree [*L*].

Application for Transfer to Retired Members' Class under Bye-law 15: The following application was approved: *As Retired Associate*: Alec Donald Rix.

Obituary: The Secretary reported with regret the death of the following members: Ernest William Banfield [*F*], William Alexander Harvey [*F*]. Mr. Harvey was awarded the R.I.B.A. Architecture Bronze Medal for Warwickshire, South Staffordshire, Shropshire, Herefordshire and Worcestershire for 1934, and the R.I.B.A. Distinction in Town Planning. He was a past President of the Birmingham and Five Counties Architectural Association, and had represented that body on the Council. He also served for many years on the Science Standing Committee, Housing Committee, Town Planning and Housing Committee, Special Committee on Housing Fees, Housing Consultative Board for the London Area, Committee on the Shortage of Skilled Building Labour, Public Relations Committee, Examinations Committee and as an Examiner. John Carrick Stuart Soutar [*F*]. Mr. Soutar was awarded the R.I.B.A. Distinction in Town Planning. He was a past member of the Council and the Practice Standing Committee. Henry Houghton Hill, A.R.H.A. [*A*]. Mr. Hill was Institute Medallist (Essays) 1909. He was a past member of the Council. Rowland Victor Taylor [*A*], Edward Ernest Barks [*Retd. A*], Stanley Herbert Browne [*L*], William Dootson [*L*], Arthur George Oxland [*L*], William Henry Wrightson [*L*]

By resolution of the Council the sympathy and condolences of the Royal Institute have been conveyed to their relatives.

MEETING HELD 3 APRIL 1951

The Honorary Fellowship: The Council formally elected H.R.H. The Duke of Edinburgh, K.G., as an Honorary Fellow.

The Honorary Associateship: The Earl of Rosse, M.B.E., and Mr. A. S. Oswald were elected as Honorary Associates.

Honours: The Secretary reported that at a private investiture H.M. The King had conferred upon Mr. T. R. Eltringham, O.B.E. [*F*], membership of the Royal Victorian Order. It was agreed to send the cordial congratulations of the Council to Mr. Eltringham.

Chairman of R.I.B.A. Registration Committee: The President welcomed Mr. Denis Poulton [*F*] on his election as Chairman of the R.I.B.A. Registration Committee in succession to Mr. E. D. Jefferiss Mathews [*F*], and on thus becoming *ex officio* a member of the Council.

Appointments

R.I.B.A. Representative on B.S.I. Committee GLC/1—Glass and Glazing: Mr. C. L. Morris [*F*].

Worshipful Company of Plaisterers: R.I.B.A. Member of Panel of Examiners for John Harmer Trophy Competition: Mr. Hubert Lidbetter [*F*].

Title of British Committee, International Union of Architects: The Council approved the change of title from British Committee, I.U.A., to United Kingdom Committee, I.U.A., since the Republic of Ireland and the self-governing countries of the Commonwealth were separately represented in the International Union.

Grants: The Council approved the following list of grants for the year 1951-52: British School at Rome £750, Architects' Benevolent Society £150, British School of Archaeology at Athens £50, C.P.R.E. £50, B.S.I. £26 5*s*., Parliamentary and Scientific Committee £26 5*s*., Association for the Preservation of Rural Scotland £10, C.P.R.W. £7, International Federation for Housing and Town Planning £5, British School at Rome, Faculty of Archaeology £3 3*s*.

Honorary Auditors: It was agreed to nominate Mr. R. O. Foster [*F*] and Mr. Charles Sykes [*A*] for election as Honorary Auditors for the Session 1951-52.

Architects' Smocks: Provision within 'Utility' Range of Garments: The Secretary reported that a number of enquiries had been received from members as to the possibility of getting architects' smocks included in the range of 'utility' garments. Previous applications to the Board of Trade had met with no success, and the matter had again been taken up recently.

The following letter from the Board of Trade to the Secretary, R.I.B.A., was considered:

'Dear Sir,

'I refer to your letter of 17 January asking for ruling on the present position regarding the production of architects' smocks as utility garments.

'Having regard to the exceedingly difficult supply position regarding cotton and cotton fabrics of all kinds, the Board regret they can not reverse their previous decision on this matter.

'As you will doubtless agree there is a very large variety of industrial garments, even if only cotton cloths are considered, and it would be impossible to avoid undesirable discrimination if some special types were included in the Utility range while others continued to be excluded.

'The present range of overalls is therefore considered to be as far as the Board can go at present in this direction. Any other types required therefore must continue to be produced.

Yours faithfully,

(Signed) L. H. Ellis.

'Board of Trade,
Industries and Manufactures Department,
Division 2 A,
Thames House North, Millbank, S.W.1.
22 *February* 1951.'

It was agreed that no further action was practicable.

Membership: The following members were elected: As Honorary Fellows, 1; as Honorary Associates, 2; as Fellows, 13; as Associates, 87; as Licentiates, 6.

Students: 56 Probationers were elected as Students.

Applications for Reinstatement: The following applications were approved: *As Fellow*, Alexander Smeaton Robertson [*Retd. F*]; *As Associate*, Roderick Charles Fisher.

Resignations: The following resignations were accepted with regret: David Devlin [*A*], John Brooks [*L*].

Application for Transfer to Retired Members' Class under Bye-law 15: The following application was approved: *As Retired Fellow*: Henry Alexander Radclyffe Ellis.

Obituary: The President referred with deep regret to the death of Mr. Harold S. Sawyer, M.C. [*F*], President of the Hampshire and Isle of Wight Architectural Association and a serving member of the Council. The Secretary also reported with regret the death of the following members: Horace William Cubitt [*F*]. Mr. Cubitt was a former member of the Council and served for many years on the following Committees: Practice, Finance and House, Housing, Revision of Charter, Stoppage of Building, Unification, National Housing Policy, London Building Acts, and as an Examiner and a member of the Statutory Board of Examiners. Thomas Harry Gibbs [*F*], Stephen James Bridges Stanton [*F*], Frank Woods [*F*]. James Glen Sivewright Gibson [*Retd. F*]. Mr. Gibson was a Vice-President from 1906 to 1910. He also served for many years on the Council and the following Committees: Art, Science, Competitions, Prizes and Studentships, Fellowship Drawings, Bye-laws Revision, Constitutional, Unification, British Committee of the Franco-British Union of Architects, Board of Professional Defence and the Housing Consultative Board for the London Area. Ralton Gardner Hammond [*Retd. F*], Murray Jacob Harris [*Retd. F*], Sydney Herbert Meyers [*Retd. F*], Humphrey Battiscombe [*A*], Frank Roscoe [*A*], William Gordon Sellers [*A*], Lewis Edwin Hetherington [*L*], W. Oscar Langbein [*L*], Charles Ingleby Greenhow [*Retd. L*], Ernest Ian McConnach [*Student*].

By unanimous resolution a vote of regret at the loss suffered by the Institute and of sympathy and condolence to their relatives was passed.

Obituaries

Frank Roscoe [*A*], aged 49, died on 10 March. Mr. Roscoe was educated at Berkhamsted School, and then trained at the Architectural Association School of Architecture, gaining the A.A. Diploma. He began personal practice about 1927, and practised in London and Berkhamsted. Several cottages at Hedgerly, Bucks, and two houses in Berkhamsted are among his works. In 1929 he went to the Northern Polytechnic, Holloway, London, as teacher of architecture; a post which he held up to the time of his illness and subsequent death.

Mr. Roscoe was for a time in the office of Mr. Vincent Harris, O.B.E., R.A. [*F*], the 1951 Royal Gold Medallist. The design which he prepared in collaboration with Mr. John Duncan Wylson [*F*] was placed third in the competition for the R.I.B.A. building.

Mr. T. E. Scott, C.B.E., Hon. F.I.B.D. [*F*], Head of the Department of Architecture, Surveying and Building at the Northern Polytechnic, London, writes:

'Few of his own generation had an opportunity to observe and appreciate the valuable service which Frank Roscoe rendered to his profession: that was the privilege of his colleagues at the Northern Polytechnic, and of the many students who studied under his able guidance.

'He was the son of a prominent educationist, and it is not therefore surprising that he should have been one of the few who choose to devote their lives to architectural education, and whose achievements are too rarely observed and recorded by the profession at large.

'Frank Roscoe's interest in the arts was wide and his knowledge profound. He was an accomplished water colour artist, a writer on many subjects, and a connoisseur and collector of English furniture and ceramics. His knowledge and admiration of the architecture of his own country were wide and sincere, and even the most apathetic student soon became an enthusiastic follower. Always keenly interested in contemporary work, he judged it according to his own standard and was never carried away by even the most popular innovations.

'Coupled with his many gifts, he brought to his teaching work a degree of enthusiasm which is rare, and it is not surprising that he exercised a great influence in the school to which he devoted the greater part of his life's work.

'His interest in teaching naturally limited his architectural practice, but throughout the whole of his career he was always engaged on professional commissions of the more intimate kind, to which he applied himself with that care and enthusiasm which are so rarely possible in commercial practice.

'If Frank Roscoe had any single objective in life it was *quality:* a fine draughtsman himself, he always insisted that anything worth drawing was worth drawing well. He was in many ways a hard taskmaster, but by his own example he inspired students to those great efforts by which alone really good work can be produced.

'Only those who were privileged to work with him could appreciate his extraordinary personality, in which generosity, enthusiasm and whimsical humour were so delightfully blended. His passing will be regretted by all who knew him, and not least by the very many students who will long remember the happy and profitable years they spent in working under his direction.'

William Liddle Duncan [*F*], Past President of the Aberdeen Society of Architects—which he represented on the Council and the Allied Societies Conference—died on 23 March at the age of 80.

Mr. J. R. McKay of Edinburgh, a personal friend, writes:

'William Liddle Duncan was educated at Gordon's College, Aberdeen, and began his architectural career in his father's office in Turriff. After completing his training in Edinburgh he joined and ultimately succeeded his father.

'He was responsible for a large amount of work throughout Aberdeenshire during his long life and was actively engaged in his profession until a few days before his death. Mr. Duncan was Architect to the Aberdeen Education Authority for the Turriff and Huntly districts and designed and erected many schools and schoolhouses in the eastern part of the county of Aberdeen. He had a great interest in the housing problem and particularly what was required for the sparsely inhabited remote parts of the county, and his work in this sphere at Rhynie, Gartly and Insch, was of such outstanding merit that it was specially invited for exhibition in the Royal Scottish Academy of 1943. Mr. Duncan was entrusted with work by the Church of Scotland for the Presbytery of Turriff and Huntly and designed and erected many manses and halls and carried out alterations to many churches in this area. He was responsible for a number of war memorials throughout the county.

'He had a great interest in and gave ardent service to the Aberdeen Chapter of the Royal Incorporation of Architects in Scotland and was President of the Aberdeen Society of Architects for a number of years. He was also a member of the Council of the Royal Incorporation of Architects in Scotland and he was representative for a number of years on the R.I.B.A. Council. He was joined in partnership by Mr. James Munro [*A*] a few years ago and Mr. Munro will carry on the business in Turriff.

'In his youth Mr. Duncan was a skilful rifle shot and obtained the St. George's Medal, but missed the St. George's Vase after a tie. He was a man who lived for his county and gave the best of his work to all its problems.

'Among the many commissions he executed, the following will always be a tribute to his skill and memory: the British Linen Bank, Turriff; the Savings Bank, Aberdeen (Turriff branch); cottages at Rhynie, Gartly, Insch and Fyvie; Turriff parish Church Hall; reconstruction work on Hatton Castle and at Meldrum and Netherdale.'

Ewart Crellin [*L*] died on 15 December 1950 at the age of 63.

After being articled to Messrs. Horrocks and Lomas, Douglas, I.O.M., Mr. Crellin was in private practice in Douglas and Ramsey until 1936. He was subsequently attached to the R.E.'s until 1942. For a year after that he was with Sir John Brown and A. E. Henson and Partners, Northampton and London, until ill-health brought about his semi-retirement in 1943.

Mr. Crellin's work included war memorials at Douglas and Lezayre, I.O.M., various ecclesiastical works and a number of private residences; and, during the period when he was attached to the R.E.'s, supervision of the erection of a number of military installations.

A successor to his practice has not yet been appointed.

Richard Reginald Barnett [*Retd. A*] died on 6 November 1950. Mr. Barnett, who trained at the Polytechnic, Regent Street, and at St. Martin's School of Art, London, had been with the Ministry of Works since 1909, and held the post of Assistant Surveyor from 1935 to 1946.

Notes and Notices

NOTICES

Ninth General Meeting, Tuesday 19 June 1951, at 6 p.m.

The Ninth General Meeting of the Session 1950-51 will be held on Tuesday 19 June 1951, at 6 p.m. for the following purposes:

To read the minutes of the One Hundred and Thirteenth Annual General Meeting held on 1 May 1951; formally to admit members attending for the first time since their election. To read the report of the scrutineers appointed to examine the voting papers for the election of the Council for the Session 1951-52.

Mr. R. Furneaux Jordan, A.A.Dipl. [*F*] to read a paper on 'The Architectural Significance of 1851.' (Light refreshments will be provided before the meeting.)

Session 1950-1951. Minutes X.

At the One Hundred and Thirteenth Annual General Meeting, held on Tuesday 1 May 1951, at 6 p.m., Mr. A. Graham Henderson, A.R.S.A., President, in the Chair.

The meeting was attended by about 100 members.

The Minutes of the Seventh General Meeting held on 3 April 1951 having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The following members attending for the first time since their election were formally admitted by the President:

AS FELLOWS

Mr. R. E. Bonsall, Mr. G. H. Fielder, Mr. Robert O. Foster, Mr. C. W. Hutton, Mr. Harry Jackman, Mr. H. Martin Lidbetter.

AS ASSOCIATES

Mr. Edward Aldred, Mr. Keith Bennett, Mr. E. S. Carse, Mr. H. Cassius Higgins, Mr. G. L. Goddard, Mr. E. R. Hayes, Mr. R. A. Hewish, Mr. O. J. Howell, Mr. H. C. Morris, Mr. A. J. Parfitt, Mrs. Helen Parnes, Mr. C. B. Read, Mr. G. K. Robson, Mr. R. A. Sparks, Mr. P. J. Spenceley, Mr. J. C. Stevens, Mr. Jack Thewlis, Mr. Frank Turner, Mr. R. J. Pickard, Mrs. H. M. Challen, Mr. W. G. Challen.

The President formally presented the Report of the Council and Committees for the official year 1950-51 and moved that the Report be received. The Hon. Secretary seconded the motion and a discussion ensued.

The motion having been put from the Chair, it was resolved that the Report of the Council and Committees for the official year 1950-51 be received.

The President stated that the list of attendances at the meetings of the Council during the Session had been laid on the table and would be printed in the JOURNAL and sent to members with the voting paper.

On the motion of the President, a hearty vote of thanks was passed by acclamation to Mr. Brian Peake [*F*] and Mr. Charles Sykes [*A*] for their services as Honorary Auditors for the past year.

Mr. Robert O. Foster [*F*] and Mr. Charles Sykes [*A*] were nominated for election as Honorary Auditors for the ensuing year of office.

The proceedings closed at 7.10 p.m.

R.I.B.A. Kalendar

The next issue of the Kalendar will be published in the autumn and members and Students wishing to notify new addresses, etc., for publication should do so as soon as possible. The last

date for receiving changes for inclusion in the new Kalendar will be 31 May for those in the United Kingdom and the Republic of Ireland, and for those overseas the last date will be 30 June.

British Architects' Conference, Belfast, 30 May to 2 June 1951.

Final arrangements are being made for the various functions in connection with the Conference to be held in Belfast from 30 May to 2 June. The programme and application form were enclosed with the March issue of the JOURNAL, and the closing date for applications was given as 7 May. If, however, there are any Members or Students wishing to attend the Conference who have not yet submitted applications they should send them in at once, when every effort will be made to accommodate them on at least some of the functions.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Maintenance Scholarships in Architecture

The Royal Institute of British Architects offer for award in July 1951 the following Maintenance Scholarship in Architecture, tenable from 1 October 1951:

Four R.I.B.A. Houston Maintenance Scholarships of a maximum value of £125 per annum each. They are available for any stage of training at a Recognized School of Architecture and are awarded in the first instance for one year. They are renewable from year to year. (The Houston Maintenance Scholarships are for the purpose of providing educational and maintenance allowances for the sons of architects and artists, who may be, or at the time of their death were, in impecunious circumstances, whether such architects or artists be alive or dead.)

The Scholarships are intended to enable promising students, whose parents or guardians have not the necessary means, to attend approved courses at the Schools of Architecture recognized for exemption from the R.I.B.A. examinations. Students already taking such a course are also eligible to apply for a Scholarship. The Scholarships are available only for students who are British subjects by birth or naturalization.

The value of the Scholarship, up to the limits stated, will depend on the financial circumstances of the parents or guardians of the candidate. The parents or guardians will be required to furnish particulars on the proper form of their financial position.

Applications for the Scholarships (in accordance with the regulations for applications) must be made to the Secretary to the Board of Architectural Education, R.I.B.A., 66 Portland Place, London, W.1. The closing date for the receipt of applications, duly completed, is 29 June 1951. The award will be made towards the end of July.

R.I.B.A. Examination for the Office of Building Surveyor under Local Authorities

At the R.I.B.A. Examination for the Office of Building Surveyor under Local Authorities, held on the 25, 26, and 27 April 1951, eleven candidates presented themselves and the following were successful:

Mr. Gordon J. Gill, Mr. Dennis A. Goldstone, Mr. Harold W. Haynes, Mr. James T. Midgley, Mr. Gilbert Tattersall, Mr. Jack Whitehead.

COMPETITIONS

Technical College, Poole

The Dorset County Council invite architects to submit designs in competition for a College of Further Education at Poole, Dorset.

Assessors: Mr. Julian Leathart [*F*] (nominated by the R.I.B.A.), Mr. S. A. W. Johnson-Marshall, B.Arch. [*A*] (Chief Architect, Ministry of Education), Mr. H. E. Matthews [*F*] (County Architect, Dorset), Mr. J. Haynes, M.A. (County Education Officer, Dorset), Mr. H. J. Shelley, O.B.E. (Chief Inspector, Ministry of Education).

Premiums: £1,000, £500, £300.

Last day for submitting designs: 1 October 1951.

Conditions may be obtained on application to the County Education Officer, County Hall, Dorchester, Dorset.

Deposit £1 1*s.* made payable to the County Treasurer.

The Herzl Memorial, Jerusalem

The Executive of the World Zionist Organization, in conjunction with the Board of Trustees for Herzl's Tomb, invite Jewish architects, sculptors and planners throughout the world to submit designs in competition for the proposed Memorial to Herzl's Tomb, the park and the traffic lay-out of the immediate vicinity.

(*This competition has been restricted to members of the Jewish faith in view of the religious character of the project.*)

Assessors: Mr. B. Locker, Mr. A. Berachyahu (Engineer), Dr. L. Lauterbach, Mr. J. Metrikin (Architect), Mr. J. Pinkerfeld (Architect), Prof. Y. Ratner (Architect), Mr. H. Rau (Architect), Mr. J. Weitz and Mr. N. J. Aslan, A.M.T.P.I. [*A*].

Premiums: I£1,200, I£900, I£600 and additional premiums totalling I£2,300.

Last day for submitting designs: 21 June 1951.

Conditions may be obtained on application to the Secretary, The London Committee, Herzl Memorial, 77 Great Russell Street, W.C.1.

Deposit £2 2*s.*

New Technical College, South Shields

The South Shields County Borough invite architects of British nationality to submit designs in open competition for the proposed Marine and Technical College buildings to be erected at South Shields.

Assessor: Mr. S. W. Milburn, M.B.E., M.C., T.D. [*F*].

Premiums: £500, £250, £100.

Last day for submitting designs: 21 July 1951.

Conditions may be obtained on application to Mr. Harold Ayrey, Town Clerk, Town Hall, South Shields.

Deposit £2 2*s.*

COMPETITION RESULTS

Festival of Britain 1951: Committee for Northern Ireland

(*a*) **Design of Hotel**

1. Patrick Horsbrugh, A. A. Dipl. [*A*].
2. J. E. Clarke [*A*] and C. Munro [*A*].
3. Noel E. Campbell [*A*] and John Wilkinson [*A*].

Hon. Mentions: Max Clendinning: A. D. H. Thompson, D.A. (Edin.) [*A*].

(*b*) **Design of a Recreation Centre**

1. A. H. Martin.
2. C. F. D. Dunbar.
3. E. W. MacDonald, B.Arch., Dip.C.D. (Liverpool), A.M.T.P.I. [*A*].

ALLIED SOCIETIES

Changes of Officers and Addresses

Essex, Cambridge and Herts Society of Architects: West Essex Chapter. Chairman, Mr. A. B. Carter [*L*], Bruges, Rayleigh Road, Hutton, Essex. Vice-Chairman, Mr. C. J. Jerram [*A*], 25 Meadway, Gidea Park, Essex. *Hertfordshire Chapter.* Chairman, Mr. H. J. Davies [*F*]. Vice-Chairman, Mr. H. G. Coulter, M.B.E., M.C. [*F*]. Hon. Secretary, Mr. R. O. Vine [*A*], Tudor Chambers, Station Road, Wood Green, N.22. Assistant Hon. Secretary, Mr. J. J. A. Gaunt, B.Arch. [*A*]. *Southend-on-Sea Chapter.* Chairman, Mr. J. M. Scott [*F*]; Vice-Chairman, Mr. A. G. Whatley [*L*]; Hon. Secretary, Mr. K. M. Carver [*A*]. *Cambridge Chapter.* Chairman, Mr. W. E. Marston [*F*], 15 Chesterfield Road, Cambridge. Vice-Chairman, Mr. T. H. Corner, A.M.P.T.I. [*A*].

Devon and Cornwall Architectural Society. President, Mr. J. Ardern Powell, M.A. [*F*]. Senior Vice-President, Mr. L. F. Vanstone [*L*]. Junior Vice-President, Mr. Edward Narracott [*A*]. *Plymouth Branch.* Chairman, Mr. H. F. Walls [*A*], Halwell Street, Tavistock Road, Plymouth.

Nottingham, Derby and Lincoln Architectural Society. President, Mr. T. Nelson Cartwright, D.S.C. [*F*], 6 Clarendon Street, Nottingham.

The Hampshire and Isle of Wight Architectural Association. President, Mr. R. A. Thomas [*F*]. *Eastern Chapter.* Chairman, Mr. A. C. Townsend [*F*], Southolt, Beechcroft Road, Gosport, Hants. *Preston, Blackburn and District Society of Architects.* President, Mr. G. Noel Hill, M.T.P.I. [*F*]. Vice-President, Mr. G. Grenfell Baines, A.M.T.P.I. [*A*]. Hon. Secretary, Mr. T. Hargreaves [*A*], 12 Guildhall Street, Preston. Tel. 56231. Hon. Assistant Secretary, Mr. F. Hewitt [*A*].

West Yorkshire Society of Architects: Bradford Branch. Hon. Secretary, Mr. J. A. Robertshaw [*S*], 30 Frimley Drive, Little Horton, Bradford.

Liverpool Architectural Society. President, Mr. F. J. M. Ormrod [*F*], 49 Rodney Street, Liverpool 1. Hon. Secretary, Mr. M. G. Gilling [*F*], Cunard Building, Liverpool.

Royal Incorporation of Architects in Scotland: Dundee Institute of Architects. President, Mr. A. C. Barrie [*L*], 104 Commercial Street, Dundee.

Inverness Architectural Association. President, Mr. R. Carruthers-Ballantyne [*F*], British Linen Bank Buildings, 41A High Street, Inverness.

Stirling Society of Architects. President, Mr. L. C. Blakey, 76 High Street, Falkirk; Vice-President, Mr. G. B. Biggar [*A*], Mar Street, Alloa.

The Institute of South African Architects: The Transvaal Provincial Institute. President, Mr. R. C. Abbott, P.O. Box 857, Pretoria. Senior Vice-President, Mr. J. N. Cowin, Messrs. Cowin and Ellis, Portland Place, 37 Jorissen Street, Braamfontein, Johannesburg. Junior Vice-President, Mr. B. S. Cooke, Messrs. Fleming and Cooke, Balgownie House, Commissioner Street, Johannesburg.

The Royal Australian Institute of Architects: New South Wales Chapter. Hon. Secretary-Treasurer, Mr. N. A. W. Ashton, c/o Dept. of Local Government, Sydney.

Norfolk and Norwich Association of Architects: Biennial Dinner

The biennial dinner of the Norfolk and Norwich Association of Architects was held at the Maid's Head Hotel, Norwich, on Wednesday 7 March, when more than 80 members and guests were present. Mr. Stanley J. Wearing, F.S.A. [*F*], President of the Association, pre-

sided and the guests included the Lord Mayor of Norwich, Councillor Mrs. R. E. Hardy; the President of the R.I.B.A., Mr. A. Graham Henderson, A.R.S.A., and Mrs. Henderson; the Sheriff of Norwich, Councillor R. P. Braund; the Bishop of Norwich; Mrs. S. J. Wearing and the Secretary of the R.I.B.A.

The toast of 'The R.I.B.A.' was proposed by the Bishop and responded to by Mr. Henderson. Mr. P. W. Jewson, President of the Norwich Society, proposed the toast of 'The City of Norwich', to which the Lord Mayor replied. The toast of 'The Norfolk and Norwich Association of Architects' was proposed by Mr. C. W. Hobbis, A.R.C.A., and Mr. Stanley J. Wearing responded. Mr. R. O. Bond [*F*] proposed the toast of 'Our Guests', to which the Sheriff of Norwich and the President of the Norwich and District Association of Building Trades Employers, replied.

The Buckinghamshire Society of Architects: Dinner and Dance

The Buckinghamshire Society of Architects held an informal Dinner and Dance at the Crown Hotel, Amersham, on Friday 6 April. Guests were received by the Chairman, Mr. F. A. C. Maunder, R.S., Dip.Arch., A.M.T.P.I. [*F*], County Architect of Buckinghamshire.

Approximately ninety members and guests attended, the principal guests being Mr. E. L. Bird, M.C. [*A*], Editor of the R.I.B.A. JOURNAL, and Mrs. Bird, Mr. T. Talfourd Cumming [*F*], President of the Berks, Bucks and Oxon Architectural Association, and Mr. H. F. Hurcombe [*F*], Chairman, Oxford Socy. of Architects.

Mr. Desmond Hall [*A*], Chairman-elect of the Society, spoke in brief of the future activities of the Society during his term of office. Mr. F. A. C. Maunder proposed the toast to the visitors, which was replied to by Mr. E. L. Bird. During dinner and after there was entertainment by artistes, and dancing.

A collection of £6 was made on behalf of the Architects' Benevolent Society.

Coventry Society of Architects: Annual Dinner

The Annual Dinner of the Coventry Society of Architects (Chapter of the Birmingham and Five Counties Architectural Association) was held at the Masonic Hall, Coventry, on Friday 13 April. The toast of 'The City of Coventry' was proposed by Mr. Duncan Kaye [*A*], Vice-Chairman of the Coventry Society, and responded to by the Bishop of Coventry. Mr. Rolf Hellberg [*F*], Chairman of the Coventry Society, proposed the toast of 'The Royal Institute of British Architects', and Mr. Norval Paxton, M.C., Vice-President, responded in the absence of the President. Mr. D. E. E. Gibson, C.B.E., M.A. [*A*], City Architect, proposed the toast of 'Our Guests' and Major G. B. Cox, President of the Birmingham and Five Counties Architectural Association, replied.

Several of the speeches referred to the competition which is now being held for the design of the new Cathedral at Coventry and Mr. Hellberg, in his speech, dealt with the question of competitions generally.

GENERAL NOTES

R.I.B.A. Golfing Society

The Spring Meeting of the R.I.B.A. Golfing Society was held on Wednesday 25 April at St. George's Hill, Weybridge.

The Sullivan Trophy was won by Richard Scott with a score of 75—5=70. Runner-up was W. D. White, 87—16=71.

The four-ball Bogey Competition in the afternoon was won by W. R. F. Fisher and E. H. Firmin, with a score of 6 up.

The meeting was notable for the fact that one of the members, C. Tucker, holed out in one at the third hole, measuring 185 yds.

Membership Lists

ELECTION: 1 MAY 1951

The following candidates for membership were elected on 1 May 1951.

AS FELLOWS (19)

Barnes: John W. H. [*A* 1932], Sleaford.
Craske: Clifford Wigg, M.M. [*A* 1920].
Doe: Harold Edmund [*A* 1934], Huntingdon.
Gonsal: Herbert Emmanuel, B.Arch. (Liverpool) [*A* 1932], Colombo, Ceylon.
Hall: Lieut.-Col. David Polson [*A* 1932], Inverness.
Overnell: Harold [*A* 1927].
Ripley: Stanley, Dipl.Arch. (Leeds) [*A* 1933], Hastings.
Sykes: Charles [*A* 1932], Purley.

And the following Licentiates who have passed the qualifying Examination:

Colbourn: George Brownrigg, D.F.C.
Hughes: Godfrey William, M.B.E., Brisbane, Australia.
McIntosh: Charles Wilkie, Shrewsbury.
Pickavance: James Austin, Stoke-on-Trent.
Ricketts: Eric James, Weymouth.
Rutter: Frank Mowbray, Epsom.
Sherrington: William Arthur, F.R.I.C.S., A.R.C.A. (Lond.).
Smith: Hugh, Doncaster.
Walter: John Felix, Woodbridge.

And the following Licentiates who are qualified under Section IV, Clause 4 (*c*) (ii) of the Supplemental Charter of 1925:

Stewart: George, Herne Bay.
Wilkins: Christopher William, Havant.

AS ASSOCIATES (220)

Adams: Brian Charles, Dip.Arch. (The Polytechnic), Clacton-on-Sea.
Adams: John Joseph.
Adams: Ronald William Richard.
Anderson: John Boyd, D.A. (Edin.), Oxford.
Atkins: Joyce Edna (Miss).
Bailey: Donald Campbell Rupert, B.Arch. (Melbourne), Melbourne, Australia.
Baird: Joan Marjorie (Miss).
Baker: Kenneth Frederick, Maidstone.
Bennett: Abraham Francis.
Beresford: James McAllister, Wishaw.
Bernhardt: Douglas Victor.
Berry: Alfred Leslie, Exeter.
Birchett: Denis Arthur.
Blastland: William Charles, Seaford.
Boal: Robert Henry, Dipl.Arch. (L'pool), Liverpool.
Booth: Peter James.
Booton: Edward George, Barking.
Bor: Walter George, A.M.T.P.I.
Bottle: Frederick Roger.
Brewerton: Roland Leslie, Welwyn Garden City.
Brown: David Thomson, Perth.
Brown: Norman, Kingston-on-Thames.
Brown: Patricia Ann Druitt (Miss).
Brown: Victor Archibald.
Brudenell: Frederick Alfred, Liverpool.
Buttress: Frederick Arthur.
Cameron: Edith Margaret (Mrs.), D.A. (Edin.).
Cameron: James Blair, D.A. (Edin.).
Carter: Gerald Alan, Dip.Arch. (The Polytechnic), Bromley, Kent.
Carter: Peter James, West Wickham.
Chapman: Ronald Frederick, Willerby.
Clark: Richard.
Clarke: Edward John Frederick.
Clater: Frank Sydney, Colchester.
Claydon: Sheila (Miss).
Collins: John Edward, Bristol.
Collins: Martyn, Cambridge.
Cook: Anthony, Cheam.
Cook: Beryl Ruby (Miss), Surbiton.
Cooper: Malcolm, Timperley.
Courtenay: John William.
Crawford: Jack Leonard, Newcastle-upon-Tyne.
Currie: Valerie Maclaine (Miss), Dip.Arch. (The Polytechnic).
Darch: Peter John.
Dart: Charles John, Bristol.
Davies: Oscar, Dip.Arch. (The Polytechnic).
Davies: William Alcwyn, Llanelly.
Devonport: Francis Daniel, Coventry.
Dodd: Leonard, South Shields.
Dollery: Harry Charles.
Downs: Leslie Frederick John.
Drew: Peter Philip, Dip.Arch. (The Polytechnic).
Duck: William Reginald.
Eaglen: Douglas Alfred.
Ellis: Leonard Joseph, Croydon.
Emmett: Kenneth Rainforth, Leicester.
Evans: Anne Elizabeth (Mrs.), Swansea.
Evans: Byron John Martyne, Derby.
Fara: Ewa Irena (Mrs.), Dipl.Arch. (L'pool).
Farley: Colin Phipps, M.C., Southampton.
Feast: Douglas Owen, Thornton Heath.
Fergusson: Godfrey William, Maidstone.
Fidler: Donald Marsland, Manchester.
Fifield: Jean (Miss), Hertford.
Flanagan: Alan James, Christchurch, New Zealand.
Flisher: Cyril Reginald Edward, Banstead.
Follett: Stanley James, Bromley, Kent.
Forbes-Nixon: John Duncan, Brighton.
Forder: Dennis Alexander.
Foster: Langton Thomas, Wallingford.
Foxton: Reginald John.
Gardner: Peter Maurice, Surbiton.
Gavins-Taylor: Leonard.
Gay: Robert Dennis, Dip.Arch. (The Polytechnic).
Geeraerts: Arthur Albert.
Gissing: Graham Ernest James, Plymouth.
Gooday: Leslie Henry.
Gordon: Wallace, Sale.
Goss: Noel Anthony.
Gottier: Gaston, Dip.Arch. (The Polytechnic).
Green: Bernard George, Sutton.
Green: Harold Edward, York.
Greenwood: Eric, Dipl.Arch. (Leeds), Lincoln.
Guilmant: Peter Raymond, Bexhill-on-Sea.
Hamlyn: Geoffrey William, Dip.Arch. (The Polytechnic).
Harrison: Henry Peter.
Heap: James Llewellyn, Grays.
Henrickson: Lawrence Arthur Kenneth, Grimsby.
High: Arthur Alan Benjamin, Dip.Arch. (The Polytechnic), Godalming.
Hill: Arthur Henry, Maidstone.
Hindle: Edgar, Preston.
Hinton: Frederick Charles Heath, Dorchester.
Holmes: Albert Butterfield, Hull.
Howlett: James Crosby.
Howlett: Jeffrey William Hamilton.
Huckstepp: Michael John, Walton-on-Thames.
Huggins: Douglas William, Dip.Arch. (The Polytechnic), Dartford.
Humphreys: William Alan, Bristol.
Jaquet: Peter Michael, Wellington, Somerset.
Johnson: John.
Kenmuir: Herbert Edward, Belfast.
Khan: Taruj Ahmed, Hyderabad-Deccan, India.
Kingstone: Clifford, Mansfield.
Kirk: Arthur George, Heanor.
Kitching: Percy, Shildon.
Lane-Davies: Hugh John, Dip.Arch. (The Polytechnic), Tenterden.
Law: Graham Couper.
Leaker: Dudley Roberts, Coventry.
Lebor: Philip, Dip.Arch. (The Polytechnic).
Lichtig: Dennis Szulim.
Linford: Owen Finbow, Truro.
Logan: James Hugh, Newcastle-on-Tyne.
Lucas: Ronald James, Swindon.

Luckes: Durrant Grahame, Caterham.
Luxton: Edward Harvey, Bristol.

McCusker: John Thomas Francis.
McDermott: Neil Francis Mary, Dublin.
McDowall: Thomas Johnston, D.F.C., Kilmarnock.
McKnight: Keith Robert Basil, Coventry.
MacLean: Alexander John, Dip.Arch. (Abdn.), Bridge-of-Allan.
Macphee: George Charles, D.A. (Dundee), Dundee.
Malin: Gerald David, Dip.Arch. (The Polytechnic).
Markham: Isidore.
Marshall: Dennis William, Dip.Arch. (The Polytechnic), Chesham.
Mathers: George Arthur James, Buntingford.
Mhatre: Madhuker Shamrao.
Middleton: James Eric, Dip.Arch. (Dunelm), Trimdon.
Middleton: Roy, Hull.
Minter: Francis Penson, Bristol.
Misseldine: Denys, Gloucester.
Mönnig: Cornelius Richard, B.Arch. (Pretoria), Pretoria, S. Africa.
Moore: Charles William, Belfast.
Morfitt: Robert Hugh, Hull.
Morgan: Geoffrey William, Bletchley.
Morgan: Raymond Curzon, Warrington.
Morton: Colin Young, D.A. (Glas.), Dumfries.
Murrin: Kenneth George, Buckland Monachorum.

Nelson: Niall D., Dublin.

O'Connell: Dermot Eugene, Dublin.
O'Connor: Dennis John Leslie, Coventry.
Oldrey: Mary Elizabeth Oliphant (Miss), Romford.
Outram: Jack, Rotherham.
Ovenden: Ronald John.

Paine: Charles Theodore.
Panter: Paul James Henry, Wellingborough.
Parker: Joseph Edward, Tadcaster.
Partridge: John Albert.
Partridge: Roy, Dip.Arch. (The Polytechnic), Romford.
Pelham: Douglas Lloyd.
Pigott: Michael Mountford, Weybridge.
Pilcher: Anthony John Bennett, Dip.Arch. (The Polytechnic).
Plumridge: Peter Graeme.
Pomeroy: Joseph Samuels, Holywood.
Porteous: John Ferguson, Dip.Arch. (The Polytechnic), Bromley, Kent.
Preston: Philip Ernest, Doncaster.
Price: Raymond Morris, Heysham.
Prior: William James.
Pullen: Arnold Jack, Dip.Arch. (The Polytechnic), Caterham.
Putwain: George Frederic, Dip.Arch. (The Polytechnic), Tonbridge.

Rainger: Richard Charles, Cheltenham.
Rice: Elizabeth Weston (Mrs.), Esher.
Riley: Eric Hotham, Hull.
Robertson: Richard Gibson, North Wylam.
Robinson: Brian Harrison, Dip.Arch. (Manchester), Blackpool.
Ruddle: John Joseph Patrick, Dublin.
Rushworth: John Nutter, Colne.
Rycroft: Peter Gerard, Kingston.

Samson: David Ralph, Glasgow.
Saunders: Bertie John, Erith.
Scott: Alexander Robert, Cape Town, S. Africa.
Selman: Anthony, Dip.Arch. (The Polytechnic).
Shields: Percival Herbert Arthur.
Shipley: William Ivor, Glasgow.
Shortman: John Keith, Bristol.
Simpson: Charles Henry.
Smith: Alistair Gregory.
Southwood: Robert Charles, Nottingham.
Spencer: John Vernon, Manchester.
Stevenson: Eric Jenour, Dip.Arch. (The Polytechnic).
Stewart: Walter, Dip.Arch. (Dunelm), Newcastle-upon-Tyne.
Stow: Derek Acton, Ewell.
Sturgeon: Josiah John.
Tanner: Ivor John, D.F.C., Bristol.
Tarling: Charles, Orpington.
Templeton: Robert, Stewarton.
Thompson: Kenneth John, Hull.
Thorne: Harold Leonard, Aylesbury.
Thurston: Ronald, Dunstable.
Tietjen: Edward Horace, Ilford.
Topping: James, Preston.
Trevallion: Bernard Arthur Walter.
Tritton: William Hayward, Canterbury.
Twentyman-Jones: Roderick Vernon, B.Arch. (C.T.), Cape Town, S. Africa.
Utting: Russell Dudley, Winchester.
Vale: David Reginald, Lincoln.
Vallis: Mary Patricia (Mrs.).
Vane: Derek Charles William, Folkestone.
Waddington: Basil Andrews, Eastbourne.
Walker: Howard Vincent, Nantwich.
Waller: Ernest Edward.
Ward: Sheila Mary (Miss).
Watkinson: Peter William, Dipl.Arch. (Leeds), Leeds.
Way: Anthony Hilton, Brighton.
Welsh: Charles Gibson, Glasgow.
Westrope: Frederick Henry, Preston.
White-Gaze: Peter William.
Wield: Douglas, Havant.
Wightman: Harold, Norwich.
Williams: Geoffrey Gould, Bolton.
Williams: Glyn Arfon, Cardiff.
Williams: Roger Edison.
Wills: Francis Braim, Derby.
Wilson: Peter Geoffrey, Hull.
Wilson: Robert Arthur, Aylesbury.
Wolstenhulme: Peter Robert, Gloucester.
Woodhead: Alan, Dipl.Arch. (Leeds), Castleford.
Woolley: Leonard John Buckley, York.
Wye: Donald Geoffrey, Dip.Arch. (The Polytechnic), Slough.
Yandell: Thomas Jeffrey, Bristol.
Young: Laurence Murray, Gillingham.

LICENTIATES (7)

Brooks: Kenneth George, Winchester.
Brooks: William Arthur, Coventry.
Davies: John Francis, Liverpool.
Hickman: James Bernard, Wellington, Shropshire.
Johnston: James, New Malden.
Laycock: Rev. Canon Edward Penard, B.E.M., A.K.C., Southborough.
Thompson: Mabel (Miss), Nunthorpe.

ELECTION: 19 JUNE 1951

An election of candidates for membership will take place on 19 June 1951. The names and addresses of the candidates with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Monday 28 May 1951.

The names following the applicant's address are those of his proposers.

AS FELLOWS (9)

Beasley: Albert [*A* 1922], Air Ministry, London; 75 Lynwood Drive, Worcester Park, Surrey. Paul Badcock, R. E. Enthoven, H. E. Foreman.

Folkes: John Homery [*A* 1930], 34 Hagley Road, Stourbridge, Worcestershire; Hagley Grange, nr. Stourbridge. G. C. Gadd, Herbert Jackson, Reginald Edmonds.

Harris: John Seymour [*A* 1941], 4 Greenfield Crescent, Edgbaston, Birmingham, 15; 50 Upper Holland Road, Sutton Coldfield. H. C. Bloomer, Frederick Hill, L. J. Multon.

Hawkins: George Heslop, T.D. [*A* 1938], Messrs. Matkin and Hawkins, Barclay Chambers, Fawcett Street, Sunderland; 11 The Poplars, Gosforth, Newcastle-upon-Tyne, 3. S. W. Milburn, C. A. Harding, G. T. Brown.

Lone: Reginald Wilcox [*A* 1918], 15 New Square, Lincoln's Inn, W.C.2; Deep Dene, Buckhurst Hill, Essex. R. C. Foster, Sydney Tatchell, H. R. Bird.

Neil: Charles Warren [*A* 1930], Stonebow, Lincoln; 22 Buckingham Street, W.C.2; Greenacres, Dunholme, Lincoln. Niel Martin-Kaye, P. V. Burnett, T. S. Darbyshire.

Stevens: Kenneth Arthur [*A* 1937], 21 Turl Street, Oxford; 'Brindle Bank', Third Acre Rise, Oxford. R. F. Dodd, H. S. Rogers, H. F. Hurcombe.

Thorp: Charles Richard, A.M.T.P.I. [*A* 1939], Messrs. Needham and Thorp, 6 High Petergate, York; Crookhill, Skelton, York. C. W. C. Needham, A. N. Thorpe, J. S. Syme.

And the following Licentiate, who is qualified under Section IV, Clause 4 (*c*) (ii), of the Supplemental Charter of 1925:

Fish: Frederick James, 349 Royal Liver Building, Liverpool, 3; 898 Burnage Lane, East Didsbury, Manchester, 19. Stewart McLauchlan, Rupert Medcalf, W. P. Horsburgh.

AS ASSOCIATES (128)

The name of a school, or schools, after a candidate's name indicate the passing of a recognized course.

Allen: Geoffrey Jack [Special Final], 'Oakdene', 52 Queens Walk, Harrow, Middlesex. H. K. Wakeford, E. D. Mills, J. S. Walkden.

Ames: Gerald George Singleton [Final], 'Uplands', Mill Lane, Rainhill, nr. Liverpool. T. A. Brittain, A. Douglas Jones, F. Mellor.

Amos: Francis John Clarke, Dip.Arch. (The Polytechnic) (The Poly, Regent Street (London): Sch. of Arch.), 59 Court Road, Eltham, S.E.9. J. S. Walkden, Frederick Gibberd, David Jenkin.

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Berryman: Arthur Harold [Special Final], 64 Sandhurst Drive, Belfast, N. Ireland. G. A. Henry, J. R. Young, Frank McArdle.

Bidwell: Trena Mavis (Miss), Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), Garth, Forest Side, Buckhurst Hill, Essex. J. S. Walkden, David Jenkin, A. L. Osborne.

Bitcheno: Leonard Charles, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), Hedgend, Candlemas Lane, Beaconsfield, Bucks. V. O. Rees, David Jenkin, R. G. Brocklehurst.

Borley: Stanley Eric [Special Final], 5 Broad Street, Seaford, Sussex. A. H. Ley, H. Colbeck, Alwyn Underdown.

Bramley: John Greenwood [Final], 48 St. Andrew's Avenue, Ashton-on-Ribble, Preston. Applying for nomination by the Council under Bye-law 3 (*d*).

Bridges: Peter Sydney Godfrey [Final], 28 South Way, Raynes Park, S.W.20. R. G. Covell, F. Q. Farmer, Frankland Dark.

Burberry: Peter John, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 9 Palace Court Gardens, Muswell Hill, N.10. J. S. Walkden, David Jenkin, and applying for nomination by the Council under Bye-law 3 (*d*).

Burns: Brian John, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 2 Gloucester Gardens, Ilford, Essex. J. S. Walkden, T. L. Daniel, B. Sherren.

Carter: Thomas Walter Oliver, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 9 Hornsey Lane Gardens, Highgate, N.6. J. S. Walkden, David Jenkin, W. W. Fisk.

Chatwin: Alfred, D.A. (Dundee) (Dundee Coll. of Art: Sch. of Arch.), 57 Brechin Road, Arbroath, Scotland. John Needham, Donald Ross, T. H. Thoms.

Chesher: Robert Stuart, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 87 Woodfield Park Drive, Leigh-on-Sea, Essex. J. S. Walkden, David Jenkin, E. C. Kent.

Cobbett: Martin Lewis [Special Final], 56 Airedale Avenue, Chiswick, W.4. Prof. W. G. Holford, P. W. Adams, Edgar Bunce.

Connidis: Andrew Joseph, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 13 Boscombe Road, Shepherd's Bush, W.12. J. S. Walkden, L. M. Gotch, R. J. Hurst.

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Cooper: Charles Edmund (Nottingham Sch. of Arch.), The Croft, Chapel Lane, Holloway, Matlock. Applying for nomination by the Council under Bye-law 3 (*d*).

Cooper: John Walter, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 15 Rafford Way, Bromley, Kent. J. S. Walkden, David Jenkin, B. W. H. Scott.

Cottell: Charles Lewis (Sch. of Tech. Art and Commerce (Oxford): Sch. of Arch.), Manton Lodge, Westlecott Road, Swindon, Wilts. Prof. A. E. Richardson, Marshall Sisson, A. E. Beswick.

Cruickshank: George [Special Final], Queensborough Court Hotel, Queensborough Terrace, W.2. C. W. Box, O. D. Pearce, Geoffrey Ridley.

Cummings: Easton Alexander [Final], 14 Broomhill Drive, Glasgow, W.1. F. R. Burnet, J. Bell, Prof. W. J. Smith.

de Chenu: Roger Noel, B.Arch. (Dublin) (Univ. Coll. (Dublin, Ireland): Sch. of Arch.), 14 Eglinton Park, Donnybrook, Dublin. Prof. J. V. Downes, J. J. Robinson, P. J. Munden.

Dimond: James Francis [Final], 25 Home Park Avenue, Peverell, Plymouth. E. U. Channon, H. M. R. Drury, H. J. Hammick.

Dixon: Philip Arthur, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), Basildon Development Corporation, Gifford House, Pitsea, Essex. J. S. Walkden, Col. R. F. Gutteridge, C. E. Culpin.

Emerson: John Brian [Final], 342 Lisburn Road, Belfast. R. H. Gibson, Frank McArdle, A. F. Lucy.

Enevoldson: Leslie Ivor [Special Final], 75 Queens Avenue, Dorchester, Dorset. H. E. Matthews, Cyril Fifield, G. D. Harbron.

Feeney: Martin Gerard [Final], 67 Carleton Road, Marino, Dublin. Raymond McGrath, James O'Hanlon Hughes, J. J. Robinson.

Fenton: Thomas Bruce [Special Final], 47 Birchgate, Bucknall, Stoke-on-Trent, Staffs. Percy Bartlett, J. R. Piggott, J. C. Miller.

Firth: Cedric Harold [Special Final], 27 Greville Road, N.W.6. C. W. Box, Prof. Sir Patrick Abercrombie, Prof. Gordon Stephenson.

Francis: Leslie William [Special Final], 1A Church Road, Harlesden, N.W.10. Norman Keep, C. J. Burnett, H. S. Gardiner.

Fuller: James Samuel William, A.R.I.C.S. [Special Final], 30 Yalding Road, Bermondsey, S.E.16. C. J. Burnett, T. E. Scott, G. E. Burgess.

Furness: Geoffrey Gordon [Final], 20 Barcroft Road, Newsome, Huddersfield. Norman Culley, N. R. Paxton, George Crossley.

Garrett: Stephen George, M.A. (Cantab) [Final], 6 Charterhouse Square, E.C.1. James Macgregor, and applying for nomination by the Council under Bye-law 3 (*d*).

Goodrich: Alan Russell [Special Final], 37 Thornton Road, Potters Bar, Middlesex. T. E. Scott, R. W. H. Jones, Miss J. E. Townsend.

Gray: Reginald Sanger, Dip.Arch. (Dunelm) (King's Coll. (Univ. of Durham), Newcastle-upon-Tyne, Sch. of Arch.), 14 Great North Road (Flat No. 2), Jesmond, Newcastle-upon-Tyne, 2. Prof. W. B. Edwards, F. W. Harvey, J. H. Napper.

Greaves: Ronald Alfred [Special Final], 98 Wensleydale Avenue, Ilford, Essex. J. S. Walkden, David Jenkin, Peter Moro.

Gundry: Peter Bertram Horace [Final], 60 Belgrave Road, S.W.1. A. W. Hall, Louis de Soissons, W. A. Cole-Adams.

Hands: Dennis Clifford [Final], 'The Abbotts', All Saints Road, Cheltenham. S. E. Urwin, H. F. Trew, H. S. Davis.

Harrison: Roger Charles [Special Final], 22 Chigwell Road, South Woodford, E.18. E. B. Webber, Niel Martin-Kaye, J. B. F. Cowper.

Head: Alfred Ernest [Final], 17 Wilson House, Albion Avenue, S.W.8. E. M. Rice, A. R. Borrett, A. E. Miller.

Herrmann: Erich [Special Final], 18 Hogarth Hill, Hampstead Garden Suburb, N.W.11. Lieut.-General Sir John Brown, A. M. Chitty, C. G. Kemp.

Higgison: Frank Robert Stephen [Final], 66 The Esplanade, Burnham-on-Sea, Somerset. G. D. G. Hake, T. H. B. Burrough, E. H. Button.

Hignell: Robert Stephen [Final], 48 Queen's Court, Clifton, Bristol, 8. G. D. G. Hake, E. H. Button, F. R. Steele.

Hill: John (Northern Poly. (London): Dept. of Arch.), 227 Hedge Lane, Palmers Green, N.13. T. E. Scott, S. F. Burley, Frank Risdon.

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Hobbs: Geoffrey Mansell [Final], 48 Cumberland Drive, Hinchley Wood, Esher, Surrey. Applying for nomination by the Council under Bye-law 3 (*d*).

Holwell: Alan [Final], 7 Burwood Place, W.2. J. Konrad, G. D. Harbron, H. K. Wakeford.

Hopkins: Colin Reginald, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 110 Semley Road, Norbury, S.W.16. J. S. Walkden, David Jenkin, W. W. Fisk.

Hothersall: George Leo [Final], 79 Worple Road, Wimbledon, S.W.19. F. R. S. Yorke, Eugene Rosenberg, Richard Sheppard.

Hughes: Merle Lake [Final], 13 Mottram Close, Norwich. J. M. Scott, L. G. Hannaford, C. J. Tomkins.

Hughes-Jones: Morris [Final], 94 Englishcombe Lane, Bath. Lewis John, A. F. French, W. H. Price.

Hunt: David, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 6 Brunswick Road, Kingston, Surrey. J. S. Walkden, George Vey, Z. Sirotkin.

Hutchings: Lois Margaret (Miss) [Final], 16 The Little Boltons, S.W.10. Applying for nomination by the Council under Bye-law 3 (*d*).

Inglis: Peter Charles Patrick (The Poly., Regent Street (London): Sch. of Arch.), 1 Lancaster Grove, N.W.3. J. S. Walkden, Prof. H. O. Corfiato, Stewart Thomson.

Jackson: Anthony Peter, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 49 Donnington Road, Kenton, Harrow, Middlesex. J. S. Walkden, David Jenkin, E. D. Mills.

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Johnston: William Alfred, M.C., Dip.Arch. (Abdn.) (Aberdeen Sch. of Arch.: Robert Gordon's Tech. Coll.), 'Kinkell', Collieston, Aberdeenshire. E. F. Davies, G. A. Mitchell, G. A. Henry.

Juster: Robert John, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 16 Craneford Way, Twickenham, Middlesex. J. S. Walkden, Frederick Gibberd, David Jenkin.

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Kent: Stanley George [Special Final], 17 Cloister Road, North Acton, W.3. A. B. Waters, J. F. Howes, F. L. Jackman.

Kershaw: Albert [Final], 22 Roxholme Avenue, Harehills, Leeds, 7. S. F. Bestow, N. R. Paxton, N. H. Fowler.

Labesse: Jeanne Paulette Marguerite (Miss), Dipl.Arch. (U.C.L.) (Bartlett Sch. of Arch.: Univ. of London), 33 Bld. de Clichy, Paris IXe. France. Prof. H. O. Corfiato, L. S. Stanley, R. C. White-Cooper.

Lachlan: John Francis, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), Pen-y-Bryn, West Drive, Harrow Weald, Middlesex. Sir Thomas Bennett, B. L. Sutcliffe, J. S. Walkden.

Laity: Anthony Fox (Passed a qualifying Exam. approved by the N.Z.I.A.), c/o Messrs. G. C. Fox and Partners, Falmouth, Cornwall.

Prof. A. C. Light, H. L. Massey, P. W. Hubbard.

Leathart: John Anthony, B.A. (Cantab) [Final], The Cottage, London Road, Bagshot, Surrey. J. R. Leathart, C. S. Kimpton, C. L. Gill.

Leith: Charles Raymond [Final], Planning Dept., Down County Council, Court House, Downpatrick, N. Ireland. R. H. Gibson, A. F. Lucy, Frank McArdle.

Locke: Peter Edwin [Final], 49 Maudsley Road, Eltham, S.E.9. E. M. Rice, J. E. M. Macgregor, D. R. Humphrys.

McBride: John Alexander, M.B.E., Dip.Arch. (Sheffield) (Univ. of Sheffield, Dept. of Arch.), Flat 11, Oakhill Court, East Putney, S.W.15. Prof. Stephen Welsh, H. B. Leighton, G. E. Tonge.

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McMaster: Hughan James Michael, Dip.Arch. (The Polytechnic) (The Poly., Regent Street, (London): Sch. of Arch.). 'Karageorge', Old Ruislip Road, West End, Northolt, Middlesex. J. S. Walkden, David Jenkin, M. L. Winslade

Madden: Kathleen Oonagh (Miss), B.Arch. (Dublin) (Univ. Coll. (Dublin, Ireland): Sch. of Arch.), 'The Cottage', Clarendon Street, Londonderry, N. Ireland. Prof. J. V. Downes, Vincent Kelly, Frank McArdle.

Moore: Colin Alfred [Special Final], 9 Addiscombe Road, Wells Road, Bristol, 4. E. W. B. Scott, T. G. Scott, J. N. Meredith.

Myers: Edgar Leslie [*L*] [Special Final], 9 Hawks Nest Gardens East, Alwoodley, Leeds. G. P. Stainsby, Prof. J. S. Allen, H. A. Johnson.

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Oates: Mary (Mrs.), Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 17 Sevington Road, Hendon, N.W.4. J. S. Walkden, David Jenkin, Peter Moro.

O'Gorman: James Augustine [Final], c/o J. A. Doyle, Esq., 18 Suffolk Street, Dublin. P. J. F. Munden, J. J. Robinson, Prof. J. V. Downes.

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Outhwaite: Norman Hugh Gough, Dipl.Arch. (Leeds) (Leeds Sch. of Arch.), 9 Brookfield Avenue, Rodley, Leeds. W. A. Eden, D. A. Fowler, Spencer Silcock.

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Pierce: William Irvine [Special Final], 26 Eastbridge Street, Enniskillen, N. Ireland. R. H. Gibson, Frank McArdle, A. F. Lucy.

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Smith: Pamela Gladys (Miss), D.A. (Edin.) (Edinburgh Coll. of Art: Sch. of Arch.), 5 St. Ronan's Avenue, Redland, Bristol, 6. W. I. Thomson, T. W. Marwick, W. H. Kininmonth.

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Tasker: Margaret Doreen (Miss), Dip.Arch. (Sheffield) (Univ. of Sheffield: Dept. of Arch.), Wensley, 42 Heathville Road, Gloucester. Prof. Stephen Welsh, H. B. Leighton, H. B. S. Gibbs.

Taylforth: Jack Goddard [Special Final], 85 Norfolk House Road, Streatham, S.W.16. H. V. Lobb, A. M. Chitty, Hugh Casson.

Taylor: Gordon (Aberdeen Sch. of Arch.: Robert Gordon's Tech. Coll.), 13 Arbuthnott Street, Stonehaven, E. F. Davies, J. G. Marr, A. B. Gardner.

Thomson: Janet (Miss), D.A. (Glas.) (Glasgow Sch. of Arch.), 54 Polwarth Gardens, Glasgow, W.2. Prof. W. J. Smith, L. H. Ross, F. R. Burnet.

Tonge: Deric Vernon (The Poly., Regent Street (London): Sch. of Arch.), 10 Colbrook Close, Hayes, Middlesex. J. S. Walkden, David Jenkin, Peter Moro.

Turner: Valerie Mary (Miss) [Final], 'Newlands', Weare Street, Capel, Surrey. William Sadler, E. L. Gale, E. A. Day.

Vann: Joan Ellen (Miss), Dip.Arch. (Leics.) (Leicester Coll. of Art and Tech.: Sch. of Arch.), 'Chelston', Mountsorrel Lane, Rothley, Leics. F. Chippindale, S. Penn Smith, W. J. Prince.

Wade: Herbert Randall, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), 51 Oldborough Road, North Wembley, Middlesex. J. S. Walkden, David Jenkin, George Coles.

Warton-Woods: Huntley Alexander, Dip.Arch. (The Polytechnic) (The Poly., Regent Street (London): Sch. of Arch.), Starts Hill Cottage, Farnborough, Kent. J. S. Walkden, David Jenkin, R. A. Jensen.

Watson: Peter Derek (The Poly., Regent Street, (London): Sch. of Arch.), 34 Avenue Road, N.W.8. J. S. Walkden, H. G. Coulter, Bryan Westwood.

Welch: John David (Arch. Assoc. (London): Sch. of Arch.), 38 Windsor Road, Cosham, Portsmouth, Hants. A. C. Townsend, R. A. Thomas, V. G. Cogswell.

Williams: Edward John James [Final], 4 Dunsmore Way, Lower Midway, nr. Burton-on-Trent, Staffs. D. W. Aldred, A. Rome, Clifford Bond.

Wilmshurst: William Edward [Final], 63 South Park Grove, New Malden, Surrey. W. J. Gregory, C. W. Box, C. L. Gill.

Wright: David Charles [Final], 15 Leeward Road, St. Williams Estate, Rochester, Kent. H. T. Jackson, C. H. Elkins, G. B. Cox.

Wright: Richard Harold (Leicester Coll. of Art and Tech.: Sch. of Arch.), Flat 5, 27 Holland Park, Kensington, W.11. F. Chippindale, S. Penn Smith, G. A. Cope.

AS LICENTIATES (10)

Auty: Donald Simpson, 'Ardoch', Seafield Crescent, Elgin, Morayshire. E. B. Tyler, and

applying for nomination by the Council under Bye-law 3 (*d*).

Binks: Cyril, Leeds Education Offices, Leeds, 1; 35 Chandos Gardens, Leeds, 8. N. H. Fowler, Noel Pyman, W. H. King.

Hooper: Ashford Wilfred Graham, 35 Kingston Crescent, Portsmouth; 21 Western Parade, Southsea. R. A. Thomas, V. G. Cogswell, and applying for nomination by the Council under Bye-law 3 (*d*).

Jackson: John Alan, Lloyds Bank Ltd., Premises Dept., 71 Lombard Street, E.C.3; 170 Seaforth Gardens, Stoneleigh, Surrey. S. F. Bestow, C. W. Box, T. J. Lynch.

Jacobson: Zalik, 72 St. Osyth Road, Clacton-on-Sea, Essex. G. G. Wornum, Lieut.-Col. D. T. Wallis, Thomas Wallis.

Lees: Cedric Ronald Lea, 4 Broad Street, Launceston, Cornwall; Marlea Cottage, St. Stephens by Launceston. R. F. Wheatly, A. J. Cornelius, Sydney Gregson.

Pargiter: Leonard George, M.B.E., Ministry of Works, Abell House, John Islip Street, S.W.1; 41 Rowlands Avenue, Hatch End, Middlesex. A. G. Alexander, Alister MacDonald, Robert Atkinson.

Riley: Harold, Borough Architects' Dept., High Street Buildings, Huddersfield; 48 Kingston Avenue, Dalton, Huddersfield. G. R. Clayton, M. H. Forward, S. M. Richmond.

Sanders: Henry Partridge, 4 Clements Inn, Strand, W.C.2; Grove House, The Grove, Epsom, Surrey. H. N. Edwards, E. H. Paisley, C. A. Bollinger.

Shennan: William Millward, c/o Prof. W. G. Holford [*F*], 80 Bedford Street South, Liverpool, 7; 17 Lingdale Road, West Kirby, Cheshire. Prof. W. G. Holford, E. E. Rosenberg, Prof. Gordon Stephenson.

ELECTION: 9 OCTOBER 1951

An election of candidates for membership will take place on 9 October 1951. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 11 August 1951.

The names following the applicant's address are those of his proposers.

AS FELLOWS (4)

Hill: Eric Davy [*A* 1942], P.O. Box 677, Nairobi, Kenya Colony; Grosvenor Hotel, Nairobi. L. G. Jackson, G. B. E. Norburn, Idris Davies.

Manickam: Thambuswamy Joseph, B.Sc., B.E. (Mysore), B.Arch., Dip.C.D. (Liverpool), A.M.T.P.I. [*A* 1940], Central Public Works Department, Ministry of Works, Mines and Power, Government of India, New Delhi; 49 Kotah House, Shahjehan Road, New Delhi. R. L. Gehlote, Walter George, C. M. Master.

Meiring: Prof. Adriaan Louw, B.A. (C.T.), B.Arch. (L'pool) [*A* 1934], 239 Vermeulen Street, Pretoria, S. Africa; 722 Park Street, Pretoria. C. S. Lodge, V. S. Rees-Poole, W. B. T. Newham.

Parker: Cecil James [*A* 1928], 17 Stephen House, Dalhousie Square, Calcutta, India; 6 Humayan Court, Calcutta. Coleman Hicks, H. S. Goodhart-Rendel, H. L. Curtis.

AS ASSOCIATES (29)

The name of a school, or schools, after a candidate's name indicates the passing of a recognized course.

Andrews: Guy Hamilton (Passed a qualifying Exam. approved by the I.S.A.A.), 82 Victory House, Harrison Street, Johannesburg, S. Africa. J. A. Hoogterp, W. C. von Berg, P. N. Logan.

Baart: Leonard William, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), P.O. Box 153, Bulawayo, Southern Rhodesia. D. M. Sinclair, D. M. Burton, A. S. Furner.

Balfour-Cunningham: Gordon, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), P.O. Anerly, South Coast, Natal, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Barlow: Marcus Robert (Passed a qualifying Exam. approved by the R.A.I.A.), 19 Baird Street, Brighton, Victoria, Australia. O. A. Yuncken, B. B. Lewis, J. F. D. Scarborough.

Brown: Albert Dawson (Passed a qualifying Exam. approved by the R.A.I.A.), 2 Crescent Street, Haberfield, Sydney, N.S.W., Australia. Prof. F. E. Towndrow, C. C. Ruwald, J. D. Moore.

Clarke: Lindsey James, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 6 Victoria Street, Jannali, N.S.W., Australia. Prof. H. I. Ashworth, Prof. A. S. Hook, E. L. Thompson.

Crowder: Peter Neville Ryder (Passed a qualifying Exam. approved by the I.S.A.A.), c/o Messrs. Paton Taylor and Partners, Royal Exchange Buildings, Smith Street, Durban, S. Africa. C. S. M. Taylor, E. M. Powers, A. M. Allen.

Crowe: George Raymond (Passed a qualifying Exam. approved by the N.Z.I.A.), 26 Sydney Street, Spreydon, Christchurch, New Zealand. M. K. Draffin, and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3 (*a*).

D'Almeida: Philip Marques [Special Final], Office of the Assistant Director of Public Works (Architectural), P. W. D. Headquarters, Federation of Malaya, P.O. Box 1047, Kuala Lumpur, Malaya. W. S. Corlett, T. A. L. Concannon, F. R. S. Yorke.

Dixon: Frank Wilson Chatham (Passed a qualifying Exam. approved by the R.A.I.A.), Alto Avenue, Croydon, Victoria, Australia. O. A. Yuncken, B. B. Lewis, L. M. Perrott.

Epstein: Henrik, Dr. (Passed a qualifying Exam. approved by the R.A.I.A.), Australia House, 38 Carrington Street, Sydney, N.S.W., Australia. W. Marmorek, P. J. Gordon, J. D. Moore.

Hodge: Alexander Munro, Dip.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), 41A Sixth Avenue, Parktown North, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Jackson: John [Special Final], N.E.M. House P.O. Box 138, Salisbury, Southern Rhodesia W. D'A Cathcart, C. A. Knight, F. A. O. Jaffray.

Kemp: John Marc, B.A. (Cantab), B.Arch. (C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), c/o Messrs. Andrews and Niegeman, Union House, Queen Victoria Street, Cape Town, S. Africa. Prof. L. W. T. White, O. Pryce Lewis, C. P. Walgate.

Leeson: Brian, Dip.Arch. (Dunelm) (King's Coll. (Univ. of Durham), Newcastle-upon-Tyne, Sch. of Arch.), P.O. Box 58, Nairobi, Kenya Colony. Prof. W. B. Edwards, R. Q. Scammell, H. D. Archer.

Moffat: Maurice Joseph (Passed a qualifying Exam. approved by the N.Z.I.A.), 161 Burnside Road, Fendalton, Christchurch, New Zealand. M. K. Draffin, and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3 (*a*).

Nicholas: Raymond John, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), P.O. Orlando, Transvaal, S. Africa. R. C. Rinaldi, A. S. Furner, Gordon Leith.

Smith: Maurice Keith, B.Arch. (Auck. N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), 31 Liverpool Street, Hamilton, New Zealand. Prof. A. C. Light, and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3 (*a*).

Snodgrass: James Robert, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), 58 Clacton Road, Kensington, Johannesburg, S. Africa. R. C. Rinaldi, A. S. Furner, Gordon Leith.

Stott: Geoffrey Harold (Passed a qualifying Exam. approved by the R.A.I.A.), 118 Albert Street East, Melbourne, Australia. C. E. Serpell, A. G. Stephenson, L. M. Perrott.

Stott: Marcia Elizabeth (Mrs.) (Passed a qualifying Exam. approved by the R.A.I.A.), 46 Princess Street, Kew, Australia. A. G. Stephenson, Mrs. Ellison Harvie, G. L. Moline.

Symon: Sidney Harold (Passed a qualifying Exam. approved by the I.S.A.A.), No. 9, South West House, Main Street, Port Elizabeth, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Taylor: John Stanley Bennett (Passed a qualifying Exam. approved by the I.S.A.A.), 53 Groot Drakenstein, Bruce Street, Hillbrow, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Taylor: Shona (Mrs.) (Passed a qualifying Exam. approved by the I.S.A.A.), 53 Groot Drakenstein, Bruce Street, Hillbrow, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Tross: Emmanuel Monik, Dip.Arch. (C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), 240 High Level Road, Sea Point, Cape Town, S. Africa. Prof. L. W. T. White, O. Pryce Lewis, and applying for nomination by the Council under Bye-law 3 (*d*).

Vadgama: Laxmidas Chaku [Special Final], P.O. Box 103, Jinja, Uganda. D. R. Humphrys, E. M. Rice, and applying for nomination by the Council under Bye-law 3 (*d*).

Warren: William Geoffrey (Passed a qualifying Exam. approved by the N.Z.I.A.), c/o Housing Construction Division, P.O. Box 3005, Wellington, New Zealand. M. K. Draffin, and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3 (*a*).

Williamson: Norman Bruce (Passed a qualifying Exam. approved by the R.A.I.A.), 1 Goodall Street, Hawthorn, Melbourne, Australia. J. F. D. Scarborough, B. B. Lewis, Mrs. Hilary Lewis.

Wilson: George Dudley, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), Waratah Road, Engadine, N.S.W., Australia. J. C. Fowell, E. L. Thompson, Prof. H. I. Ashworth.

AS LICENTIATE (1)

Paton: Alfred George, Public Works Dept., P.O. Box 136, Accra, Gold Coast. Applying for nomination by the Council under Bye-law 3 (*d*).

Members' Column

This column is reserved for notices of changes of address, partnership and partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than for posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. Charles H. W. Allport [*A*] has taken up an appointment on the Architect's staff of the Housing Commission of the Government of New South Wales, and his address is c/o The Bank of Australasia, 2 Martin's Place, Sydney, N.S.W., Australia.

PRACTICES AND PARTNERSHIPS

Mr. Richard Carter [*A*] and **Mr. Euston Salaman** [*A*] have entered into partnership under the style of **Carter and Salaman** at Lyndum House, High Street, Petersfield, Hampshire. (Petersfield 866.)

Mr. L. A. Culliford, F.R.I.C.S., A.M.T.P.I. [*F*], and **Mr. L. A. Chackett**, F.R.I.C.S. [*F*], practising as **Messrs. L. A. Culliford and Partners**, 47 Essex Street, Strand, London, W.C.2, announce that by mutual agreement **Mr. R. W. J. Polkinghorne**, A.R.I.C.S. [*A*], has relinquished his partnership with effect from 10 May 1951. Mr. Polkinghorne is taking up an appointment in Kenya, and his address is c/o Messrs. Cobb, Archer and Scammell, P.O. Box 58, Nairobi, Kenya Colony.

Mr. Ronald Fielding [*A*] is practising at Aldwych House, Aldwych, London, W.C.2 (CHAncery 4745), and will be pleased to receive trade catalogues, samples etc.

Mr. H. D. Priestman [*A*] (**Wellsted, Dossor and Priestman**) and **Mr. A. Lazenby** [*A*] have amalgamated their practices as from 9 April 1951 and will practise under the style of **Priestman and Lazenby.**

Mr. W. G. Seaton [*A*] has from 1 January 1951 taken into partnership **Mr. Douglas A. Cull** [*A*]. The practice will continue from Central House, Lansdowne, Bournemouth, under the style of **Seaton and Cull.**

Messrs. Whinney, Son and Austen Hall (**H. Austen Hall** [*F*], **H. C. D. Whinney** [*F*], **W. F. Howard** [*F*] and **H. J. Franklin** [*A*]) have taken into partnership **Mr. C. P. Dickinson** [*A*] with effect from 1 April 1951.

Messrs. W. S. Willan [*F*], and **D. A. Stewart** [*A*] announce that they have taken **Mr. Kenneth Waite** [*A*] into partnership and will in future practise under the style **Willan, Stewart and Waite,** from their present addresses at 127 Sandgate Road, Folkestone, and 23 Dane John, Canterbury, Kent.

CHANGES OF ADDRESS

John E. Bull [*A*] has removed from 115 Eastfield Road, Bristol, to 7 Lansdown Place West, Lansdown, Bath.

Messrs. Drake and Lasdun (**Mr. Lindsey Drake** [*A*] and **Mr. Denys Lasdun** [*F*]) have removed to 63 Gloucester Place, London, W.1. (WELbeck 3318-9 and 6878-9.)

The new address of **Mr. Barry C. Finch** [*A*] is Assistant Architect and Building Surveyor, Architect's and Building Surveyor's Department, Municipality of Singapore.

The address of **Mr. K. H. Gardner** [*A*] will in future be c/o Barclays Bank, 82-84 Adderley Street, Capetown, South Africa, where he will be pleased to receive trade catalogues etc.

The new address of **Mr. R. A. J. Gazzard** [*A*] is Office of the Government Town Planner, Survey, Land and Mines Department, P.O. Box 361, Kampala, Uganda. He will be pleased to receive trade catalogues etc.

The new address of **Mr. Kenneth G. Gold** [*A*] is c/o The Department of Works and Housing, Darwin, Northern Territory, Australia.

Mr. R. Gorbing, A.M.T.P.I. [*A*] has removed from 65 London Road, Knebworth, to 76 Walkern Road, Stevenage, Herts.

Mr. Hugh Pite [*A*] has removed to 40 George Street, London, W.1. (WELbeck 7122.)

Mr. J. H. Garnham Wright [*A*] has removed from 'Little Dane', Thurnham, Detling, near Maidstone, Kent, to Greenway Court, Hollingbourne, Kent.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Old-established practice for sale in Southern Eire. Good connections. Pleasant life. Box 28, c/o Secretary, R.I.B.A.

Majority partnership offered in small established practice in the Channel Islands. Applications for further particulars should give details of qualifications, experience and *bona fides*. Box 32, c/o Secretary, R.I.B.A.

Architect and Surveyor with busy general practice in Isle of Wight seeks cross-partnership, part time partnership or association with mainland firm. Box 35, c/o Secretary, R.I.B.A.

WANTED AND FOR SALE

Retired Licentiate wishes to dispose of a number of surveying and drawing instruments, all in good order. List and price on application to Box 29, c/o Secretary, R.I.B.A.

For Sale. Oak drawing desk, with drawer and trays; drawing board, 31 in. by 23 in., slopes, rotates and rises. Box 30, c/o Secretary R.I.B.A.

If any student has ever made measured drawings of the dome at Castle Howard, York (Vanburgh) and has half-inch or full size details thereof, would he be willing to sell or loan for a fee copies of the drawings? Box 37, c/o Secretary, R.I.B.A.

Retired architect has two excellent wood plan chests for disposal, each with six double elephant drawers. Moderate price. Near Charing Cross station. Box 38, c/o Secretary, R.I.B.A.

For Sale. One double elephant drawing board. One double elephant T square, swivel head. One imperial T square, swivel head. Good condition. Box 39, c/o Secretary, R.I.B.A.

ACCOMMODATION

Member urgently requires offices, or would share suite, within easy radius of Piccadilly/Charing Cross. Area about 500 sq. ft. and with full facilities. Moderate rent. Box 31, c/o Secretary, R.I.B.A.

Member seeks 2/3 rooms, suitable for offices; must be well lit and with telephone. Preferably in W.C. or S.W. districts of London. Reasonable rent. Box 33, c/o Secretary, R.I.B.A.

To Let. Bloomsbury district, second floor office, 15 ft. by 17 ft. 6 in., with additional full height cupboards. Well lighted, quiet, open outlook. Newly decorated, electric lighting and gas services. Box 34, c/o Secretary, R.I.B.A.

To Let, second floor office, Piccadilly district. Total area 634 ft. approximately. Suitable for architects or engineers. Large well-lit front office suitable as drawing office, 375 sq. ft. Glass screened private cubicle room at rear of front office, 94 sq. ft. Separate room on floor above, 165 sq. ft. Box 36, c/o Secretary, R.I.B.A.

A.B.S. Centenary Appeal

Total of donations so far received to the Centenary Appeal Fund of the Architects' Benevolent Society stood at 26 April at £7,098 13*s*. The Appeal Committee are greatly encouraged by the good beginning thus made, and hope that a continued generous response may before long enable a start to be made on the proposed scheme for homes for elderly beneficiaries.

A further list of the donations received up to 26 April is given below.

H. St. John Harrison, £3 3*s*.; Manchester Society of Architects, £74 1*s*. 3*d*.; W. A. Johnson, £1; B. Waterhouse, £1 5*s*.; C. S. Jaques, £2 2*s*.; West Essex Chapter, Essex, Cambs. and Herts. Society of Architects, £10 10*s*.; George Lowe, £2 2*s*.; Leicestershire and Rutland Society of Architects, £78 15*s*.; J. W. Beaumont and Sons, £2 2*s*.; Anon., £10 10*s*.; G. C. Fox, £1 1*s*.; Mrs. G. L. Head, £10; H. J. Hammick, £3 3*s*.; J. D. Weir, 5*s*.; A. P. Clements, £1 1*s*.; C. Scriven, £3 3*s*.; L. V. Mitchell, £2 2*s*.; Bucks. Society of Architects, £6 5*s*.; B. H. Barrett, £3 3*s*.; Chelmsford Chapter, Essex, Cambs. and Herts. Society of Architects, £15 15*s*.; T. H. Clayton, £3 17*s*.; Devon and Cornwall Architectural Society, £21; Southend-on-Sea Chapter, Essex, Cambs. and Herts. Society of Architects, £50; A. G. Nisbet, £3 3*s*.; S. W. Neighbour, 10*s*.; Herts. Chapter, Essex, Cambridge and Herts. Society of Architects, £21; T. G. Birchall Scott and Clifford S. Jaques, £3 3*s*.; G. F. d'S. Greenaway, £2 2*s*.; Cambridge Chapter, Essex, Cambs. and Herts. Society of Architects, £5 5*s*.

"A.B.S."

HOUSE PURCHASE LOANS

Alternative Schemes

1. **Normal Advance:** 80 per cent of Valuation. **Interest:** 4 per cent gross. (Borrower pays Survey Fee and Legal Costs, totalling 1 per cent of loan.)

2. **Normal Advance:** 85 per cent of Valuation. **Interest:** 4½ per cent gross. (Office pays Survey Fee and Own Legal Charges.)

Repayment by means of an Endowment Assurance term not exceeding 25 years under (1) or 30 years under (2).

HOUSES IN COURSE OF ERECTION

Advances increased to 90 per cent of the controlled selling price.

Particulars from: The Secretary, A.B.S. Insurance Department, 66, Portland Place, London, W.1. (Tel: LANgham 5721.)